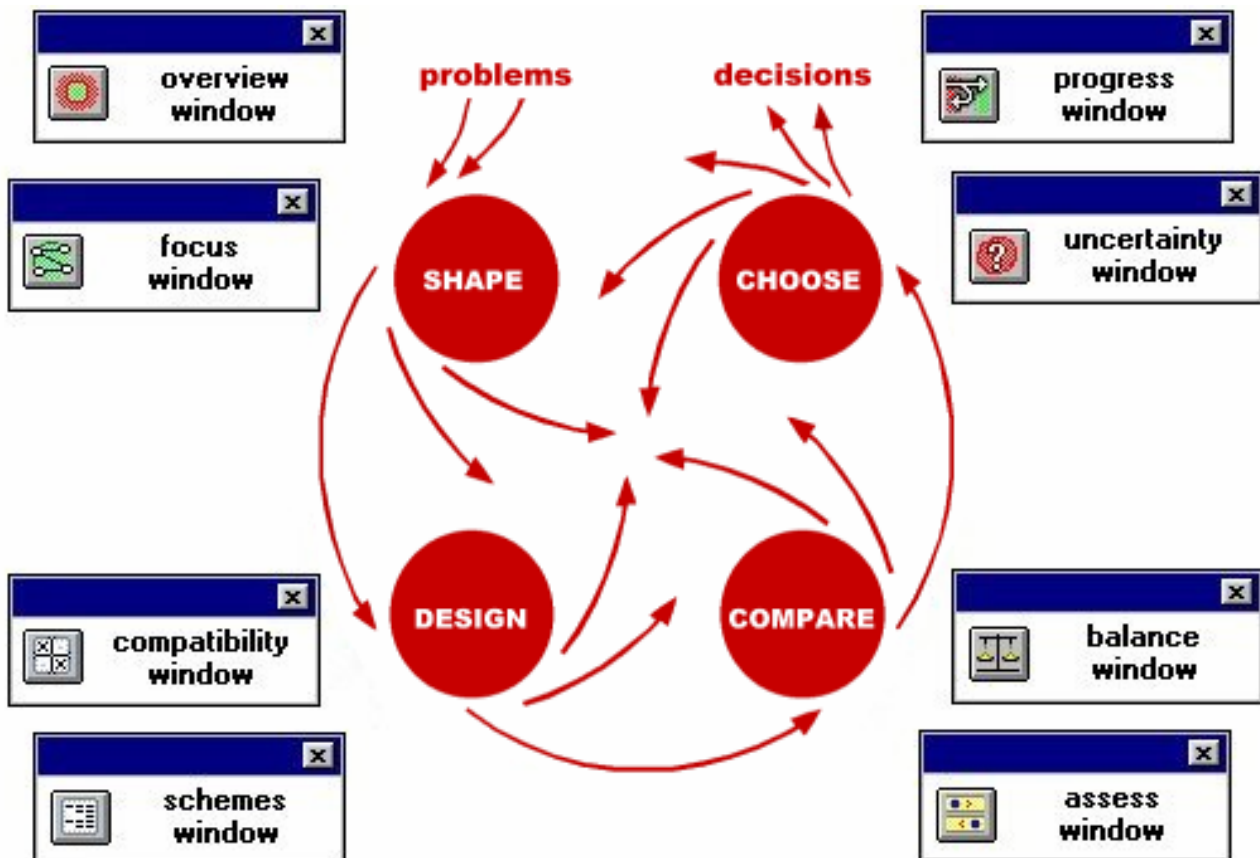


# STRAD

the strategic adviser



flexible software support for decision makers

**USER'S  
MANUAL**

version 2.3

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# STRAD

the STRategic ADviser  
*version 2.3 for Windows*

release 2.30 July 2002

## USER'S MANUAL

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A list of terms in the glossary will be found on page 89



# **CHAPTER 1:**

## **Introduction**

### **In This Chapter:**

**What STRAD Does**

**The Present Version**

**Installing STRAD**

**Registration**

**Running STRAD**

**The Demonstration Project Files**

**The Tutorial Trail**

**The Demonstration Program as a Learning Aid**

**Your Licence**

**User Support**

## What STRAD Does

- 1.1 **STRAD** is short for **STRategic ADviser** - a unique yet easy-to-use software package for managers and small planning groups. STRAD can offer practical support whenever you face a tangle of tough decisions that are of a *developmental* nature - that is, non-repetitive and interconnected in ever-changing patterns.
- 1.2 The function of STRAD is to help you to make faster and more confident progress in your decision-making while contending with multiple uncertainties and fast-moving events. Indeed, the greater the pressures of time and uncertainty, the more value you should derive from STRAD as a source of continuing strategic support.

## The Present Version

- 1.3 **STRAD 2.3**, released in July 2002, is designed to run on computer systems that operate under any version of Microsoft Windows. It includes additional Export and Project history features that are described in Chapter 4, and is the first version to be supplied on CD ROM, with user's manual in printable pdf format.
- 1.4 STRAD has undergone a succession of refinements since the first Windows version STRAD 2.01 was released in December 1994. That version replaced the earlier STRAD 1 series for DOS that was launched in 1991, after field testing of successive prototypes.

## Installing STRAD

- 1.5 To install STRAD 2.3, first insert your installation disk in your CD drive. On most systems, the installation program should load automatically. If it does not, press the start button, select **run** and type **D:\install**, then follow the instructions on screen.
- 1.6 After selecting **Install STRAD** from the options that appear on screen, you will be invited to read and accept a standard user's licence form, then to nominate a directory for the installation of your STRAD program file and its ancillary files.
- 1.7 The following files will then be decompressed and installed in your chosen directory:
  - Your STRAD **program file** strad.exe;
  - A context-sensitive **Help file**;
  - A set of eight **demonstration project files**;
  - A **user's manual** in .pdf format;
  - A STRAD **tutorial** for use with any of the demo project files, also in .pdf format;
  - A **demo version** of STRAD, STRADEMO, including further learning aids
- 1.8 In addition to the **Install STRAD** option, the installation CD-ROM offers further options to **Install Adobe Acrobat Reader**, for users who do not already have this means of reading .pdf files on their system; **Visit Stradspan website**; or **e-mail Stradspan**.

## Registration

- 1.9 From the directory in which you have installed STRAD, you can select **Register STRAD** to call up a registration form on which you are invited to enter your contact details. You can then either submit your form electronically or print it out and mail it to the Stradspan address. Registration entitles you to benefits of technical support; discounts on future versions of STRAD; and periodic information bulletins.

## Running STRAD

- 1.10 You can now proceed to run STRAD in the same way as any other Windows application. Once you select STRAD, an introductory panel will appear, displaying your licensed user number along

with copyright information. You are next invited to select either **Open existing project** or **Start new project**. The file management procedures that follow from this choice are described in Chapter 4. **Learning to use STRAD**

- 1.11 Users who already have practical experience in tackling developmental decisions under uncertainty should find that most of the principles of STRAD make good sense in relation to that experience - even if some of them may appear to run counter to more orthodox principles of rational management and planning.
- 1.12 You will find the principles behind STRAD explained more fully in Chapter 2 of this manual – with references for further reading. However, you may decide to give Chapter 2 a miss first time round; for, once you start exploring the capabilities of the software for yourself, the principles behind it should quickly become clear.

### The Demonstration Project Files

- 1.13 Included with the STRAD 2.3 program is a selection of eight **demonstration project files**, drawn from a variety of fields of business management and public policy. One way in which you can start to build up your familiarity with STRAD is first to select whichever of these projects comes closest to your own management interests, and then to follow some or all of the stages of the STRAD tutorial..

### The Tutorial Trail

- 1.14 A **tutorial** is provided in the form of an informal text that you can follow by stages, in association with any one of the demonstration projects, at any point when you wish to increase your familiarity with the main functions of the software. Stages **A**, **B** and **C** will get you started; while stages **D**, **E** and **F** will take you through the main shaping and designing procedures, ending with a glimpse of the primary output of a *progress package*. Stages **G** to **L** complete the full cycle of the strategic choice approach.

### The Demonstration Program as a Learning Aid

- 1.15 At any stage while you are building up your understanding of the capabilities of STRAD, you may wish to spend a little time exploring the learning aids included with the demonstration version of the program. This version, **STRAD DEMO**, includes an **introductory sequence** which answers many frequently asked questions about the software and its applications; a guided tour of the general **principles** behind STRAD; and a restricted demonstration version of the full **STRAD program**. From this you can access any of the eight demonstration project files then work through most aspects of the full program with on screen help, making - but not saving - changes to the project data as you go.

### Your Licence

- 1.16 The general terms of your user licence are set out in the End User Licence Agreement. You are invited to accept this at the start of the installation procedure.
- 1.17 Single user licences may be converted to multiple user or network licences on payment of the appropriate conversion fee to Stradspan Limited at the address given at the front of this manual.

### User Support

- 1.18 Should you experience any difficulties in installing or running STRAD 2.3, you are encouraged to get in touch with Stradspan Limited. The use of e-mail is recommended in the first instance. In your message, please give as full an account as you can of your difficulty and the circumstances in which it arose, so that we can respond in as helpful a way as possible.

## **CHAPTER 2:**

### **Principles**

#### **In This Chapter:**

**Foundations**

**Four Main Emphases**

**The Emphasis on Decisions**

**Three Types of Uncertainty**

**Making Incremental Progress**

**Interactive Working**

**Four Modes of Strategic Choice**

**Starting Points**

**Some References**

## Foundations

- 2.1 STRAD is based on the principles and methods of the **strategic choice approach** to planning under uncertainty. This is a participative approach to developmental decision-making which originated in Britain during the late sixties, in the course of two research studies of the practice of collaborative planning by mixed teams of operational research scientists and social scientists from the Tavistock Institute in London.
- 2.2 Since that time, the methods used have continued to evolve in response to new challenges and new opportunities - not least of which have been the ever-increasing capabilities of personal computers. The approach in its present mature form reflects extensive experience in helping practising managers and planners to work together on a varied range of business and public policy issues in many parts of the world. Further references will be found at the end of this chapter. ***You can omit the rest of this chapter if your first priority at this stage is to learn to use the software rather than to learn more about the philosophy behind it.***

## Four Main Emphases

- 2.3 The strategic choice approach has four broad emphases which, taken together, distinguish it from other structured approaches to strategic management and planning:
- An emphasis on the **decisions** which people currently face - in contrast to those approaches which adopt a more synoptic **systems** perspective;
  - An emphasis on the strategic management of **uncertainty**, from whatever source - in contrast to those approaches which advocate the methodical collection of **information** as a prior condition for decision making;
  - An emphasis on the making of **incremental** progress - in contrast to those approaches which are directed towards the production of a **comprehensive** strategy or plan;
  - An emphasis on **interactive** working among people with different perspectives to offer - in contrast to those approaches which depend on backroom analysis by **experts**.

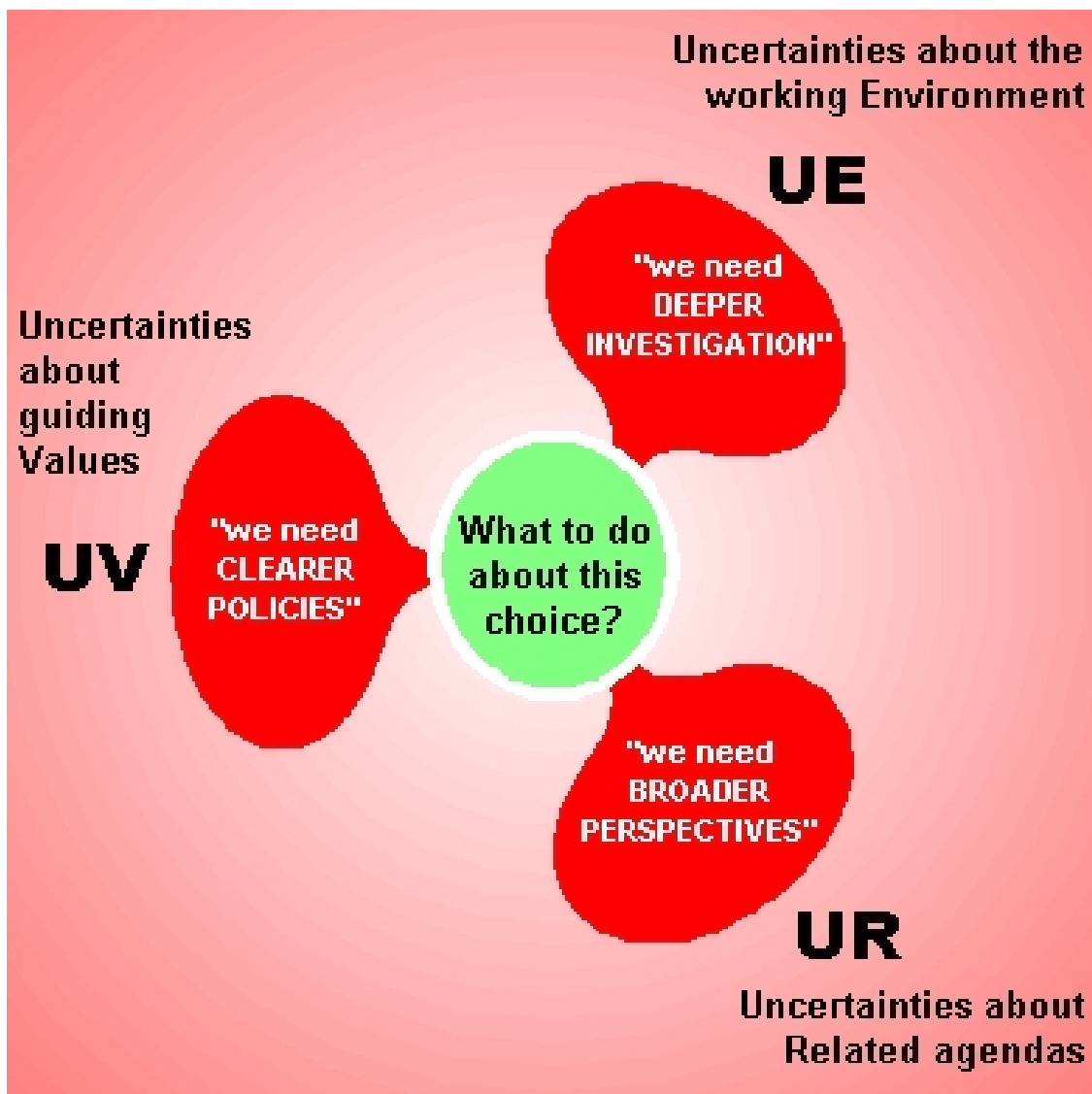
## The Emphasis on Decisions

- 2.4 In the strategic choice approach, the **emphasis on decisions** is reflected in the way users are encouraged to express the choices they currently face in terms of a set of **interconnected decision areas**. These may differ widely in terms of their subject matter (where, who, when, how...); in terms of time horizons (urgent or longer-term); and in terms of levels of organizational responsibility.
- 2.5 If the number of decision areas identified is large, then a graphical "map" of the linkages between them is developed in order to obtain a clearer view of the "shape of the problem". Criteria such as importance, urgency and interconnectedness can then be used to help in selecting a more limited **focus** of decision areas for deeper exploration at this stage. This focus can be altered at any subsequent time, as progress is made towards decisions, as clearer understanding develops and as external circumstances change.

## Three Types of Uncertainty

- 2.6 The emphasis which is placed on **managing uncertainty** - as opposed to the systematic gathering of information - is reflected in a distinctive view of the influence of different **types of uncertainty** on any decision process.
- 2.7 This view, which is pictured below, identifies three broad types of uncertainty, depending on the form of response which is seen to be most appropriate - broadly, **technical**, **political** or

**connective.** This triple classification reflects the observation that people faced with difficult decisions in practice tend to argue for three different types of **response** to their predicament:



- Some people may call for **deeper investigation** into factors within their external environment of which they feel they have too little understanding. This - the **technical** response - will typically lead them towards some form of enquiry, analysis, survey, forecasting, modelling or research.
- Some people on the other hand may call for **clearer policy guidance** in relation to potentially conflicting values, aims or interests. This - the **political** response - will typically take them in the direction of some form of consultation with policy makers or constituents, or reconciliation of potentially conflicting interests.
- Some people again may argue that the agenda of decision is at present too narrowly defined, leading them to call for adoption of a **broader perspective** including other linked choices. This - the **connective** response - will typically lead them towards some form of negotiation or joint planning with decision-makers working on other linked agendas.

2.8 These three responses may all be seen - as the diagram suggests - as responses to **different types of uncertainty**. In the strategic choice approach, the three types are labelled respectively:

- UE** for **U**ncertainties about the working **E**nvironment;
- UV** for **U**ncertainties about guiding **V**alues;
- UR** for **U**ncertainties about **R**elated agendas.



- 2.9 One of the most distinctive and important features of the strategic choice approach, and of the STRAD software, is that users are encouraged to review systematically which types of uncertainty are most critical in relation to the decision situation in which they are currently involved. By this means, they can be helped to respond in ways that will be **resource-effective** in improving the level of confidence with which important decisions can be made.
- 2.10 This is what is meant by the phrase **strategic management of uncertainty** as used in describing the second emphasis in section 2.3. It is an emphasis that can more often lead to reductions than to increases in the time and effort devoted to the gathering of information for decisions. Also, it can have profound influences not only on the decisions that are reached, but on who becomes involved at what stages in the process, and in what ways.

### Making Incremental Progress

- 2.11 The end product of a working session using the strategic choice approach - whether or not it involves use of the STRAD software - is usually set out in the form of a **progress package**. This consists of a simple grid divided vertically into the following four sections:

- **Now: Decisions** This section lists any **actions** which have been agreed in relation to some of the more urgent areas of choice;
- **Now: Uncertainties** This section lists any **exploratory steps** which have been agreed to deal with some of the most important areas of uncertainty which get in the way of those decisions still to be made in the future;
- **Future: Decisions** This section lists all **other choices** still to be made in the future; it may be used to record any agreements reached on time scales, procedures and responsibilities;
- **Future: Uncertainties** This section lists any **other areas of uncertainty** over which it has been agreed to take no action at this stage; in the more significant cases, it may be used to record any agreements reached on appropriate forms of monitoring or contingency planning.

- 2.12 The format of the progress package therefore offers a simple yet logical framework to which people can refer when seeking agreement on incremental steps forward at any stage in an ongoing decision process. Its function is to help people to strike a conscious balance between **commitment** to early action and **flexibility** of future choice, while adopting a selective - indeed a *strategic* - approach to the management of uncertainty, in which the benefits and costs of the technical, political and connective routes can all be reviewed within the same decision-centred perspective.

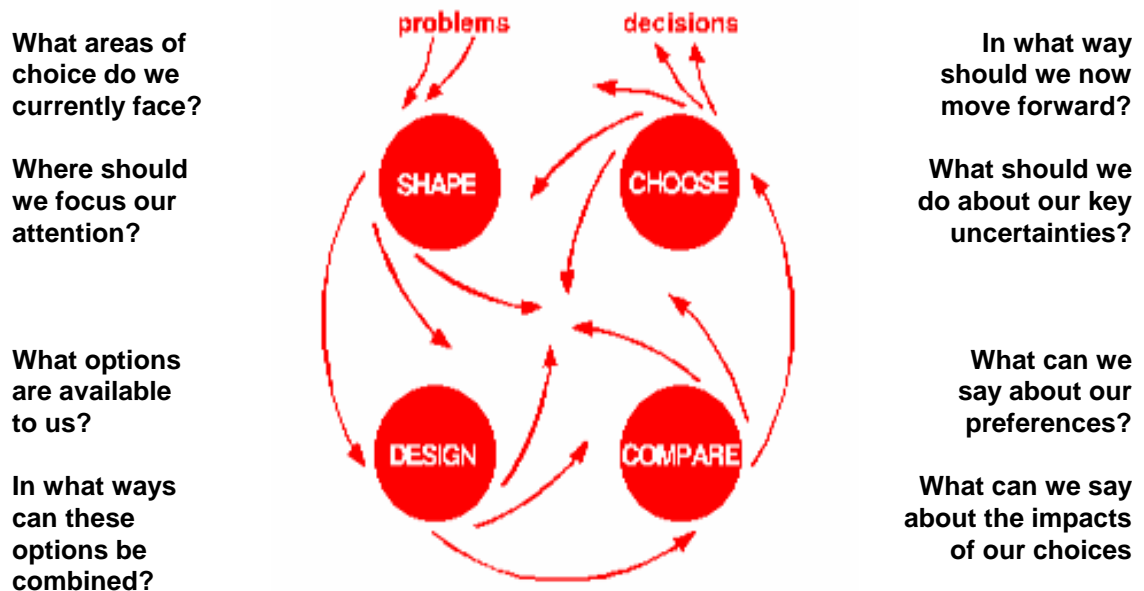
### Interactive Working

- 2.13 Prior to the development of STRAD, the most commonly-used way of giving expression to the interactive emphasis of the strategic choice approach was through the vehicle of a **strategic choice workshop**.
- 2.14 A strategic choice workshop is an informal event in which, typically, between 6 and 15 people who share a concern in some cluster of topical strategic issues agree to work together informally, usually for between half a day and two days. The aim is to develop an agreed way forward under the guidance of an experienced **facilitator** or facilitation team.
- 2.15 In such a workshop, similar graphical methods to those now embodied in STRAD are introduced as a means of guiding communication within the group - the primary medium in this case being flip charts arranged around the walls of the room.

- 2.16 Although STRAD itself can be used to support decision making in this kind of workshop setting, it is at its most effective as a means of guiding interactive working within a smaller group of 2 to 5 decision-makers, working informally together around a desktop personal computer. In the case of a single user, STRAD preserves much of this interactive spirit by acting as a surrogate facilitator or consultant to the decision-maker.

### Four Modes of Strategic Choice

- 2.17 In a strategic choice workshop, it is usual to guide the process with reference to a simple picture of four complementary modes of activity in a any developmental decision process - usually referred to as **shaping**, **designing**, **comparing** and **choosing**. As indicated in the diagram opposite, it is possible to switch from your present mode to any other mode at any time - according to the view taken by the decision-makers as to where there is currently most progress to be made.
- 2.18 It has been found that a flexible process diagram of this kind can provide a versatile alternative to the conventional linear agenda in guiding a developmental decision process in which issues cannot realistically be tackled one by one in a straightforward serial way.



- 2.19 The original DOS version of STRAD, STRAD 1.0, and subsequent extensions, were designed with this basic model of decision-making in view - with each of the four modes forming the basis for the design of a corresponding program module. However, as will be explained in Chapter 3, it has been possible to achieve additional flexibility in the design of STRAD 2 by introducing two main windows corresponding to each of the four main modes of the strategic choice approach. This gives eight different *process windows* in all, each of which may be accessed independently - while keeping other windows open if desired.

### Starting Points

- 2.20 When starting work on a new problem situation using the strategic choice approach, it is usual to invite the participants first to build up a shared list of **issues of concern** in a brainstorming spirit. Some of these may then be expressed as areas of decision, while others may be better expressed in other ways.

- 2.21 The primary purpose of this process is to start building up a shared view of the main **decision areas** - or areas of choice - which the participants face within the particular planning situation with which they are currently concerned.
- 2.22 However, it is commonly found that some of the concerns expressed by participants cannot easily be formulated as decision areas. This may be either because they are matters over which they have little or no direct influence, or because they are more in the nature of broader statements of preferences, values or goals. Areas of concern of the former kind can then be expressed as **uncertainty areas** - and then classified in terms of the three categories mentioned in section 2.7. Meanwhile, concerns about preferences can be expressed as **comparison areas**. The notion of a comparison area can be seen as broadly similar to that of a goal or **criterion** in other approaches to strategic decision making.

### Some References

- 2.23 The principal textbook on the strategic choice approach, referenced below, is now in its second edition. As well as giving a comprehensive introduction to strategic choice principles and methods, it includes a number of illustrations from practice and a discussion of the practicalities of managing strategic choice workshops. A new Chapter 10 in the second edition discusses STRAD and its applications.

John Friend and Allen Hickling *Planning under Pressure: the Strategic Choice Approach*. Second edition Oxford, Butterworth-Heinemann, 1997. ISBN 0 7506 2955 X

- 2.24 A briefer account, with a case study of the application of the methods to governmental policy-making in the Netherlands, appears in Chapters 6 and 7 of the following book which is again now in a second edition:

Jonathan Rosenhead and John Migers (editors) *Rational Analysis for a Problematic World Revisited: Problem Structuring Methods for Complexity, Uncertainty and Conflict*. Chichester/New York: Wiley 2001. ISBN 0 471 49523-9

- 2.25 The following journal article discussed the capabilities of the STRAD software shortly after it was launched:

T. J. Cartwright *STRAD: a New Role for Computers in Planning*. In: *Computers, Environment and Urban Systems*, Volume 16, pages 77-82, 1992.

## **CHAPTER 3:**

### **Using STRAD on Projects**

**Putting STRAD to Use**

**The Design of the Software**

**Working with Project Files**

**Making Progress on a Project**

**The Main STRAD Window**

**The STRAD File Menu**

**The STRAD Window Menu**

**The STRAD Customize Menu**

**The STRAD Help Menu**

**Context-Sensitive Help**

**The STRAD Toolbar**

**Procedures within Process Windows**

**Using Process Windows in Sequence**

**Working between Windows**

**The Customize Menu: General Options**

### Putting STRAD to Use

- 3.1 This chapter describes the more general procedures involved in the use of STRAD as a flexible software package for strategic decision support. It therefore paves the way for the description in Chapters 5 to 13 of the specific procedures which you can access through the eight main *process windows* and the three types of *area detail form*. File management procedures are covered in Chapter 4.
- 3.2 In general, the various procedures of STRAD 2 build on the established principles and methods of the *strategic choice approach*, as outlined in Chapter 2. Also, they make use of many of the standard features of the Microsoft Windows interface in order to make the software as flexible and easy to learn as possible.
- 3.3 Once you start building up your own familiarity with STRAD, you should begin to find it of value not only as a personal decision aid, but also as a framework for guiding discussion in small planning groups, and as an interactive consulting tool.
- 3.4 STRAD is also being used in schools of business, planning and public policy as a vehicle for experiential learning about decision-making under uncertainty, using either actual case study material or realistic exercises.

### The Design of the Software

- 3.5 Like its predecessor STRAD 1, STRAD 2 provides the user with access to a range of complementary procedures which, taken together, help in charting a course through a possibly tangled set of interconnected decision problems. In STRAD 1, these procedures were embodied in four linked program modules, labelled **Shape**, **Design**, **Compare** and **Choose**, corresponding to the four basic modes of the strategic choice approach as illustrated on page 11.
- 3.6 In STRAD 2, however, it has been possible to introduce additional flexibility by enabling the user to access most of the main procedures directly, without going through the intermediate step of switching from one program module to another. For this reason, the structure of STRAD 2 is based not on a set of four **program modules** but on a set of eight **process windows**. There are two of these for each mode of the strategic choice approach - the first more concerned with process *inputs* and the second with *outputs*.
- 3.7 The eight process windows are as follows, with Chapter references and a brief indication of the function of each:

<b>SHAPING</b>	<b>Overview Window</b> (Chapter 5)	<i>what issues do we currently face, and how can we classify them?</i>
	<b>Focus Window</b> (Chapter 7)	<i>how do our areas of choice connect, and where should we focus?</i>
<b>DESIGNING</b>	<b>Compatibility Window</b> (Chapter 8)	<i>how far can options from different areas of choice be combined?</i>
	<b>Schemes Window</b> (Chapter 9)	<i>what range of possible decision paths is now open to us?</i>
<b>COMPARING</b>	<b>Assess Window</b> (Chapter 10)	what can we say about the effects of different ways forward?
	<b>Balance Window</b> (Chapter 11)	how do the advantages of alternative ways forward balance up?
<b>CHOOSING</b>	<b>Uncertainty Window</b> (Chapter 12)	what might we do about our most critical areas of uncertainty?
	<b>Progress Window</b> (Chapter 13)	in what way should we now make progress towards decisions?

- 3.8 In line with the principles outlined in sections 2.21 and 2.22, the basic elements of analysis used in STRAD 2 are **decision areas**, **comparison areas** and **uncertainty areas**. The formulation of a project in terms of these three types of area will be described in Chapter 5, and the use of *area detail forms* to record further information on each type of area will be described in Chapter 6.

### Working with Project Files

- 3.9 Each fresh application of STRAD involves the creation a new **project file** - identified by means of a project filename with a file extension .prj. The content of the project file can then be then built up gradually, over the course of one or more working sessions. Successive versions of the file can then be saved using consecutive file names, e.g. thispro1.prj, thispro2.prj, as a running record of your progress for later reference.
- 3.10 It should be stressed that any "project" on which you work using STRAD need not be so clearly-defined as the type of project to which, for example, conventional project management software is usually applied. Your project file simply relates to the **field of decision** that is currently being explored, however broad and open-ended this may be.
- 3.11 The full set of file management procedures associated with project files in STRAD 2 will be described in Chapter 4. In general, they conform as closely as possible to standard Windows file management procedures.

### Making Progress on a Project

- 3.12 Unless you have chosen otherwise via the **customize** menu, the project **overview window** will be displayed whenever you first open a new project file, and also usually when you open an existing project file. The exception occurs when working with a project file within which you have adopted a progress package as described in Chapter 13; in that case the **progress window** will appear instead.
- 3.13 You can then make progress on your project either by working through the other process windows in sequence, or by switching flexibly from any one process window to any other, according to your own judgement as to where your current priorities lie.
- 3.14 The remaining sections of this chapter first explain the basic procedures by which you can guide your work on a project, then offer some general advice on the most effective ways of using these procedures in practice. This will depend on the stage you have reached in building up this particular project file. It will also depend on your current level of experience in working with the software.

### The Main STRAD Window

- 3.15 Those general operations of STRAD that are not specific to any one of the eight process windows are controlled by a main STRAD window, which remains open all the time you are running STRAD. This extends across the width of your screen and will remain at the top unless you move it down. The Window consists of three parts:



a **title bar** displaying the project filename with control buttons;

the STRAD **menu bar**, displaying the four main STRAD menus **File**, **Window**, **Customize** and **Help**. The full contents of each menu can be called up by clicking with your left mouse button;

a main STRAD **toolbar**, which offers faster access to the more commonly required menu options. The various buttons and their functions will be described in sections 3.27 to 3.29.

### The STRAD File Menu

3.16 The set of options available in the STRAD file menu is as follows:

New project	Save project	Notes	Progress History	Export
Open project	Save project as...	Project Details	Print	Exit STRAD

3.17 The full set of file management procedures that can be accessed through these menu options - including more specific procedures relating to project selection, saving, password management, recording of project background and progress information, printing and export - will be described in Chapter 4.

### The STRAD Window Menu

3.18 The options available through the **Window** menu correspond to the eight **process windows** of STRAD. The functions of these will be described in later chapters, as indicated in section 3.7. The menu options are:

<b>Overview</b>	<b>Focus</b>	<b>Compatibility</b>	<b>Schemes</b>
<b>Assess</b>	<b>Balance</b>	<b>Uncertainty</b>	<b>Progress</b>

### The STRAD Customize Menu

3.19 The menu options which appear when the STRAD **Customize** menu is selected depend on which of the eight process windows are currently open. A **general** menu option appears at the top, followed by a specific menu option relating to each of the eight process windows which is currently open. The selection of any one of these options calls up a further set of options for customizing colours, layout and other features of the window concerned.

3.20 The specific options available for customizing each process window are indicated towards the end of the relevant chapter, while the set of sub-options available within the **general** menu option are described at the end of this chapter. Any layout and colour changes that you specify through the Customize menu will apply not only to your current project, but to all other projects on which you may work using STRAD, until you reverse them.

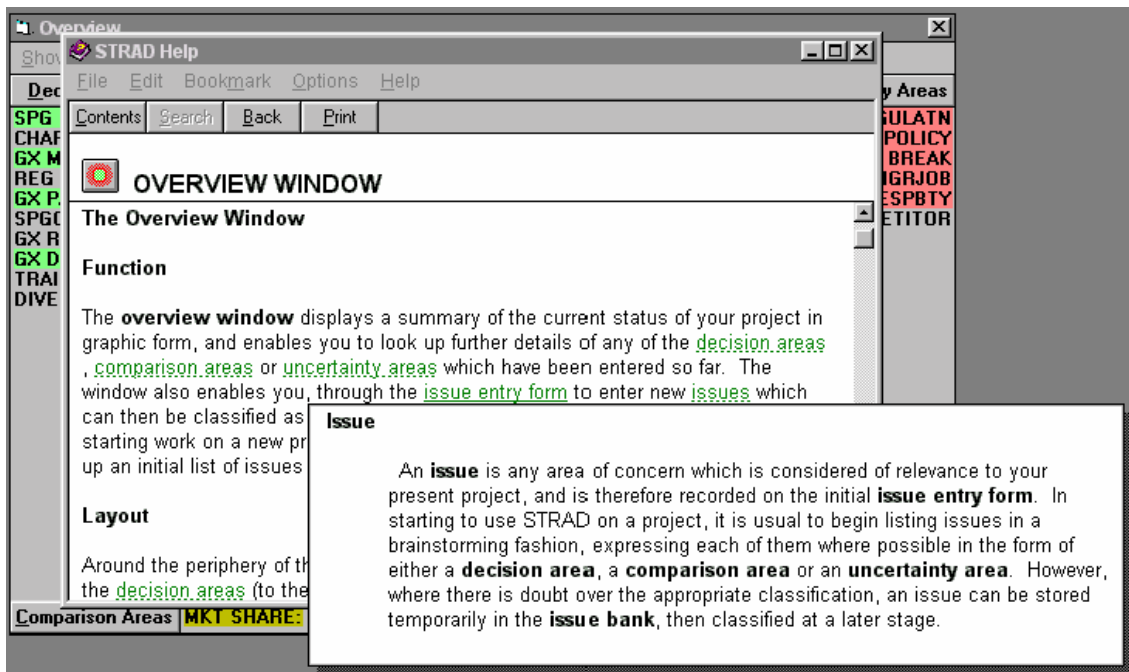
### The STRAD Help Menu

3.21 The set of main options available through the STRAD Help menu is as follows:

**Contents   Glossary   Manual   Tutorial   Mouse help   about STRAD**

3.22 The **C**ontents option opens a list of headings which broadly follow the contents of Chapters 5 to 14 of this manual. Having selected a heading, you can then select from a more detailed list of help topics, whereupon a specific help message will appear. You can now click on underlined terms for cross-references to other help topics, and on terms marked with a dotted line to call a pop-up definition, as shown in the example on the next page.

The **G**lossary option in the **C**ontents menu enables you to select items from a glossary of terms used in STRAD, which is similar to the glossary in Chapter 14 of this manual.



3.23 The **Manual** and **Tutorial** options enable you to refer quickly to these other sources of advice.

3.24 The **Mouse Help** option in the Help menu calls up a quick guide to the clicking and dragging operations which you can activate with your left mouse button - or in a few instances your right mouse button - in the particular process window which is currently active.

### Context-Sensitive Help

3.25 At any time when working with STRAD, you can also use the **F1** key to call up directly a help message which is relevant to the particular process window that is currently active, and to the current status of that window. Through this message, you can also cross-refer to other help topics and to definitions as already explained in section 3.22.

### The STRAD Toolbar

3.26 The **STRAD toolbar** which appears just below the main STRAD menu bar provides more rapid access to some of the more basic File procedures; to the eight STRAD process windows; and to the current Mouse Help window.

3.27 A short explanation of the function of each icon appears when you pass the mouse pointer over it; this explanation can be disabled through one of the options in the general section of the *Customize* menu. The five icons to the left of the toolbar provide quick access to the more frequently-required file procedures, which will be described more fully in Chapter 4.



New project

Open project

Save project

Print

Notes

3.28 The next eight icons give direct access to the eight main **process windows** of STRAD, in the sequence listed in section 3.7; notice that they are grouped in pairs corresponding to the Shaping, Designing, Comparing and Choosing modes of the strategic choice approach.





Overview



Focus



Compatibility



Schemes



Assess



Balance



Uncertainty



Progress

y

- 3.29 The **Mouse help** button appears to the right, followed by a space which is used for messages in some parts of the program and which also serves as an indicator of progress in loading and saving files.

### Procedures within Process Windows

- 3.30 Each of the process windows has its own set of procedures, which you can select through the use of its own specific set of menus, buttons and mouse operations. So far as possible, procedures have been standardized between one process window and another.
- 3.31 In particular, you can double-click with your left mouse button on the label of any decision area, comparison area or uncertainty area wherever it appears in any window, you will call up an **area detail form**. In this you can inspect or edit further information relating to that particular area. The use of these area detail forms is described in Chapter 6.

### Using Process Windows in Sequence

- 3.32 When you are beginning work on a new project, you may find it useful to go through each of the eight process windows in sequence. Starting with the project overview window, you can use the *issue entry form* within this to build up a list of issues of significance to your project, before classifying each as either a decision area, a comparison areas or an uncertainty area. Then you can visit each of the other windows in turn to identify a project focus, to explore the compatibility of options within decision areas, to identify and compare possible ways forward, and to review possible responses to uncertainty. Finally, you can build a progress package as an incremental output from your decision process.
- 3.33 Depending on your project situation, some of these stages may be more important than others. For example, if you can identify only one or two significant decision areas, then there is little or no need to spend time identifying a project focus for closer examination through the decision graph window. You may therefore wish to progress quickly to explore the impacts of different ways forward and to consider how the critical uncertainties should be managed.
- 3.34 A useful general principle is never to spend too much time working in any one window before progressing to the next. For the flexibility of STRAD 2 enables you to revisit at any time any of the process windows in which you have already worked, possibly with the benefit of fresh insights from work in the later windows. Equally, you can jump ahead in the sequence to do some work in later windows.
- 3.35 In particular, it is not advisable to delay for too long your first visit to the **progress window**. For this can give you a valuable preview of the form of the output you are seeking to achieve, even at a stage where you feel there is much more work to be done.

### Working between Windows

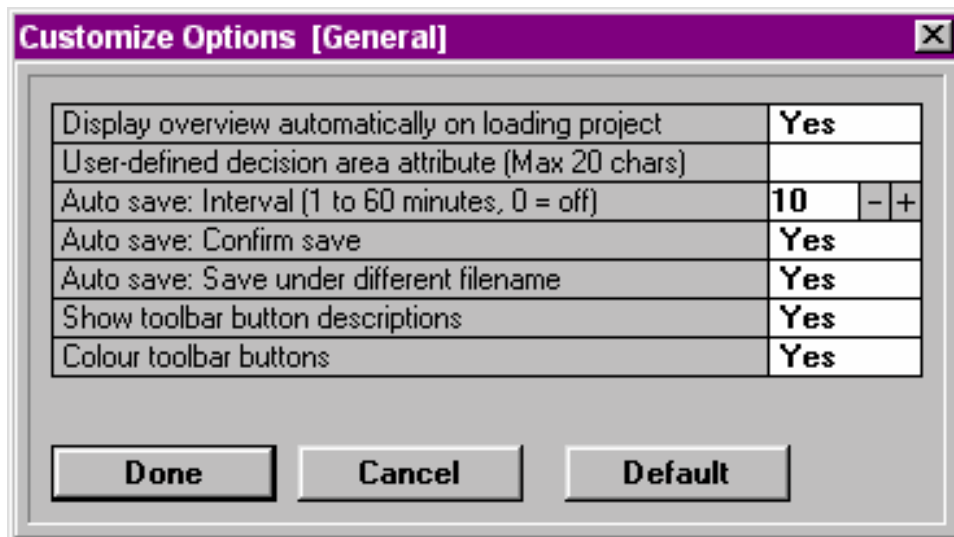
- 3.36 The more experience you gain in working with STRAD, the more you should find that you are able to work flexibly between one and another of the eight process windows. For you can quickly move backwards and forwards according to your own judgement as to where there is currently most need for work to be done.
- 3.37 The Windows environment of course enables you to keep more than one window open at the same time. So, within the constraints permitted by the display facilities of your computer, you can keep the contents of other windows in view while you are working in whichever process window is

currently active. In this way, STRAD 2 can emulate the flexibility of a strategic choice workshop, in which many flip charts are on display simultaneously.

- 3.38 You are recommended to close your current process window before switching to another, unless you expect that your switch will be a purely temporary one, or unless you expect still to refer to information in the previous window while working in your present window.
- 3.39 In most cases, the information within other open windows will be automatically updated to reflect any changes you may make in your active window.

### The Customize Menu: General Options

- 3.40 The set of options available within the **Customize menu** will depend on which of the eight process windows are currently open. A **general** menu option always appears at the head of the list. If you click on this, a set of more specific options for Customization appears as indicated opposite.
- 3.41 The default settings are shown here. You can if you wish opt for the overview window not to appear on first loading a project. You can also define a *third attribute* - in addition to importance and urgency, as discussed in chapters 4 and 5 - through which to differentiate levels of significance for your decision areas.



- 3.42 You can also choose to **save** your project automatically at intervals of between 1 and 60 minutes, with an option of calling up a dialog box asking you to confirm the save. If you wish to keep a record of your work at regular intervals, there is an option to save your file under an altered filename.
- 3.43 If you wish to keep a record of your work at regular intervals, you can save your work under sequential file names. If you have kept a record of your progress history as described in Chapter 4, this will be carried forward to your new file.
- 3.44 Finally, you can choose whether or not descriptions of the eight process window buttons appear when your mouse pointer passes over the buttons on the STRAD toolbar; and whether or not the buttons on the toolbar appear coloured.
- 3.45 The various other customize options which are available when specific process windows are open will be described at the end of the relevant chapters.

## **CHAPTER 4:**

# **File Management**

### **In This Chapter:**

**Principles of File Management**

**Creating a New Project File**

**Entering a Password**

**Starting Work on a New Project**

**Selecting an Existing Project**

**Switching to a Different Project File**

**Saving a Project File**

**Entering and Viewing Notes in a Project File**

**Project Details**

**Recording a History of your Progress**

**Printing**

**Exporting Information from Project Files**

**Exit from STRAD**

## Principles of File Management

- 4.1 File management procedures can be selected either through the STRAD file menu as described in section 3.16, or through the STRAD toolbar as described in section 3.26. Also, you may opt for files to be saved automatically at regular intervals, by use of the *Customize* menu as explained in section 3.42.
- 4.2 STRAD is initially set so that you will be asked whether you wish to save your current work on a project at 20-minute intervals, either with or without a change of filename. You can change the interval, or switch to an automatic file save procedure, by use of the *Customize* menu as explained in section 3.42.
- 4.3 While working on a project, you are advised to save it under an altered filename whenever you come to an important stage in your work – especially when you resume work after an interval, or when there are changes in the composition of a group working together.

## Creating a New Project File

- 4.4 If you intend to work on a new project as soon as you load STRAD, then you should click on the **Start new project** button on your STRAD introductory window. The main STRAD window now appears at the top of your screen with a menu bar and toolbar, and a Project Detail Form below. A prompt in the top left of the main field within the window invites you to type in as much text as you wish as a project description. This description can be recalled, read and expanded at any stage while you are working on the project.
- 4.5 In the space immediately below the description field, you may if you wish type in a proposed **Filename** for your project. If you are working in Windows 3.1 or 3.11, your file name should be no more than eight characters long; blank spaces are not allowed. When you exit from the project detail form, you will find that the filename you have specified appears in the title bar of the main STRAD window.

## Entering a Password

- 4.6 If you wish to enter a password to protect your project file, click on the **Password** button in the project detail window. A small **Password Form** will then appear over the project detail form, with three fields headed **Old Password**, **New Password** and **Retype New Password**.
- 4.7 If your project is a new one, the **Old Password** field is disabled, and you are prompted to enter your proposed password in the **New Password** field. To validate this password, move down to the **Retype New Password** field and type exactly the same entry a second time. If your password is accepted, you will be returned to the **Project Detail Form** once you click on the **Okay** button.
- 4.8 The procedures for altering an existing password, or for entering a password after you have already started work on a project, will be outlined later in this chapter.

## Starting Work on a New Project

- 4.9 To start work on your new project file click on the **Okay** button in the project detail form - having entered as much or as little information as you wish in the way of project description, and having registered a password if required. This will take you to the **project overview** window, with the **Issue Entry Form** displayed. You can now start listing the issues of concern to your project in the way to be described in Chapter 5.

### Selecting an Existing Project

- 4.10 If you click on the **Open existing project** button on the STRAD introductory screen, then a **file selection window** appears in place of the **Start new project** button. Here you can view, in the relevant directories and subdirectories, a list of existing project files, all of which have the extension **.prj**. You can now select a project file either from your present directory or from any other directory, subdirectory or drive in which such files may be stored. Where a file is password-protected, you will now be asked to enter the password; otherwise, your selected project file will be loaded.

### Switching to a Different Project File

- 4.11 If you wish to switch from working on one project to working on a different one, then click on either the **New project** or **Open project** option from the STRAD File menu - or select the corresponding button from the toolbar as indicated in section 3.27. All windows relating to your present project will then be closed, and you will be asked whether you wish to save.
- 4.12 If you select the **New project** option, then a blank *Project detail window* appears, so you can go through the project origination procedures already described in sections 4.3 to 4.6. If you select the **Open project** option, then the **file selection window** will appear, enabling you to select a different project file as described in section 4.9.

### Saving a Project File

- 4.13 The **Save project** option on the STRAD file menu - or the corresponding button on the STRAD toolbar - enables you to save a copy of the project file to hard disk under its present filename, leaving you to continue working on it if you wish.
- 4.14 The **Save project as** option displays a dialogue box in which you can enter a new or modified file name under which to save the project information, in place of the present filename.
- 4.15 If you wish to preserve a history of the status of your project at key stages in your work, you are recommended to give each stage a related filename - for example *Thispro1*, *Thispro2*, *Thispro3* - and to use the **project details** menu option to make notes on the circumstances in which you completed the present stage of your work.

### Entering and Viewing Notes in a Project File

- 4.16 The **Notes** option on the STRAD File menu - or the corresponding button in the fifth position from the left on the STRAD toolbar - calls up a window with two drop down lists at the top, headed **Topic** and **Item** respectively.
- 4.17 If you pull down the list of topics for notes, you will see that it includes four standard options: **Decision Areas**; **Comparison Areas**; **Uncertainty Areas** and **Miscellaneous**.
- 4.18 If you select **Decision Areas** from the **Topic** list, a list of all the decision areas for your project drops down under the **Item** field. When you select any one of them, any existing notes entered for that decision area is displayed; you can edit or extend these as you wish, or enter a new note where none already exist. The same happens if you select **Comparison Areas** or **Uncertainty Areas**.
- 4.19 If you select the **Miscellaneous** topic heading, a list will be pulled down of any miscellaneous headings under which notes have already been entered, together with a **New Item** entry at the end. If you now click on **New Item**, a dialog box appears in which you can enter a name for an additional item for which notes can be recorded under the miscellaneous heading. For example, you might wish to specify a new item relating to *decision links* or *participants*.

- 4.20 Once you have selected your topic and item, you can enter or edit text notes in the main section or the **Notes** window. As will be described in Chapter 6, you can also enter or edit notes relating to any particular decision area, comparison area or uncertainty area by clicking on the **Notes** button in the relevant **area detail form**, either when details are first being entered or at any subsequent time.

### Project Details

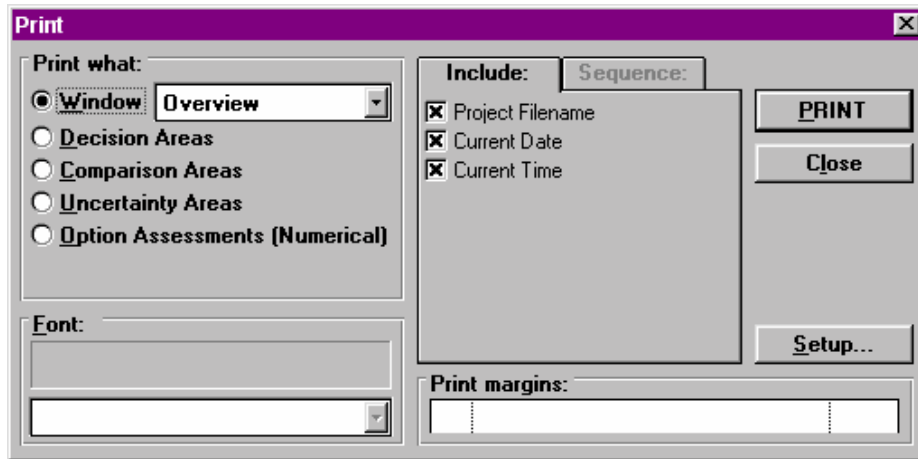
- 4.21 If you select the Project details option from the main STRAD File menu, the Project details **form** will appear. As already described in section 4.5, this includes a facility for entering a password; you can also use the form to change the password if you wish.
- 4.22 In the main part of the project details form, you can add to any descriptive details of the project that have already been entered.

### Recording a History of your Progress

- 4.23 In STRAD 2.3, the file menu includes a new **Progress history** option that enables you to record summaries of your progress at key stages while working on a file. It also enables you to access your earlier progress records at any time; and to print or export selected information for inclusion in presentations.
- 4.24 When you select the Progress history option for the first time, you are prompted to click a **New record** button to create the first record of your progress. Clicking this button creates a text record of the progress you have made up to now in the Progress Package format as described in section 2.11. First come details of any **ACTIONS** so far chosen to address particular areas of decision; then any **EXPLORATIONS** so far chosen to address particular areas of uncertainty; then details of other areas of decision and of uncertainty within which choices remain open.
- 4.25 At the top of the window, you are invited to type a few words describing your current stage of progress as an identifier whenever you wish to return to this record later. For example, you could indicate that you were at the end of a session with STRAD, or that another person had just joined or left the session. If you then press the **Store new record** button at the foot, this new information will be added to your project history record.
- 4.26 By the use of a drop down list at the top of the window, all previous stages of progress may be reviewed. You can then decide to Export or Print your summary of progress at selected stages in order to present a report on progress made to people who have not been directly involved in the work with STRAD.

### Printing

- 4.27 The **Print** option on the STRAD **File** menu calls up a **Print menu** window, of the form illustrated below. This enables you either to print a simplified copy of any of the main **STRAD windows** that may be currently open, or to print a list of **decision areas, comparison areas, uncertainty areas** or **option assessments** with a level of supporting detail which you can specify for yourself.



- 4.28 In the **Window** field appears the name of whichever STRAD window is currently active. This will be either one of the eight main process windows of STRAD or one of the option or scheme assessment windows which can be accessed through the main **Assess** window, as described in Chapter 10. A drop down menu allows you to select for printing any other window that may currently be open, apart from that which is currently active.
- 4.29 When you click on **OK**, a representation of the selected window will be printed, with some features simplified to give clearer print definition.. One exception is that the uncertainty graph within the uncertainty window is not printed, as this is similar to the representation of uncertainty areas in the overview window.
- 4.30 Should you require a more exact print of what appears on your screen - for example, for presentation purposes - then you can do this via the Windows **Paint** utility. First, save your full screen contents to the clipboard as a bitmap file by pressing your **Print screen** key - or **Alt + Print screen** if you only wish to print the contents of the window that is currently active.
- 4.31 Then you should load Windows **Paint**, enlarging the available screen area if necessary by maximizing the window. Select **Paste** from the **Edit** menu to paste in the contents of the clipboard, then print either the whole or a part of the resulting picture using standard Windows print procedures, rescaling if desired.
- 4.32 The procedures for printing lists of **decision areas**, **comparison areas** or **uncertainty areas** enable you both to select the level of supporting detail that you require, and also to set the sequence in which they are to be listed.
- 4.33 These procedures will be explained more fully at the end of Chapter 13, as they are particularly relevant at a stage of your work where you may wish to print detailed information on areas in support of a **progress package**.
- 4.34 The Print window offers a further option that enables you to print **option assessments** in numerical rather than graphical form. The extreme left and right positions in the option assessment window are set as -110 and +110, and ranges can be printed as plus/minus figures. Another new feature enables you to adjust left and right **print margins** with your mouse pointer. Margins of between 10% and 15% are advised on either side.

### Exporting Information from Project Files

- 4.35 The File menu of STRAD 2.3 includes a new option to **export** file information, as an alternative to printing it directly. You can then use other programs such as MS Word or Excel to edit the way in which it is presented.
- 4.36 You are first invited to choose, by means of check boxes, whether you wish to export all or only some of the following types of information relating to your current project:

Decision areas  
Comparison areas  
Uncertainty areas  
Option assessment data  
Progress package

- 4.37 In the same dialog box, you can select whether you wish to export the selected information in a more concise or a more extensive form; and also whether you wish to export in **plain text**; **comma delimited** (csv) or **html** format.
- 4.38 Having made your selection, you may then press the **Export** button. You will then be invited to choose a filename for the new file in which the exported information will be stored. Unless you choose otherwise, this filename will simply change the extension of the .prj file to .txt, .csv or .htm according to your choice of format.

#### **Exit from STRAD**

- 4.39 The final menu option of the File menu enables you to **exit from STRAD**, after asking you if you wish to save your present file.



## **CHAPTER 5:**

# **The Overview Window**

### **In This Chapter:**

**Function of the Overview Window**

**Layout**

**Limits to the Number of Areas in a Project**

**The Overview Graph**

**Viewing Area Details**

**The Show and Create Menus in Overview**

**Using The Issue Entry Form**

**The Issue Bank**

**Adjusting Levels of Importance for Decision Areas**

**Adjusting Levels of Urgency for Decision Areas**

**Defining a Third Decision Area Attribute**

**Creating New Areas**

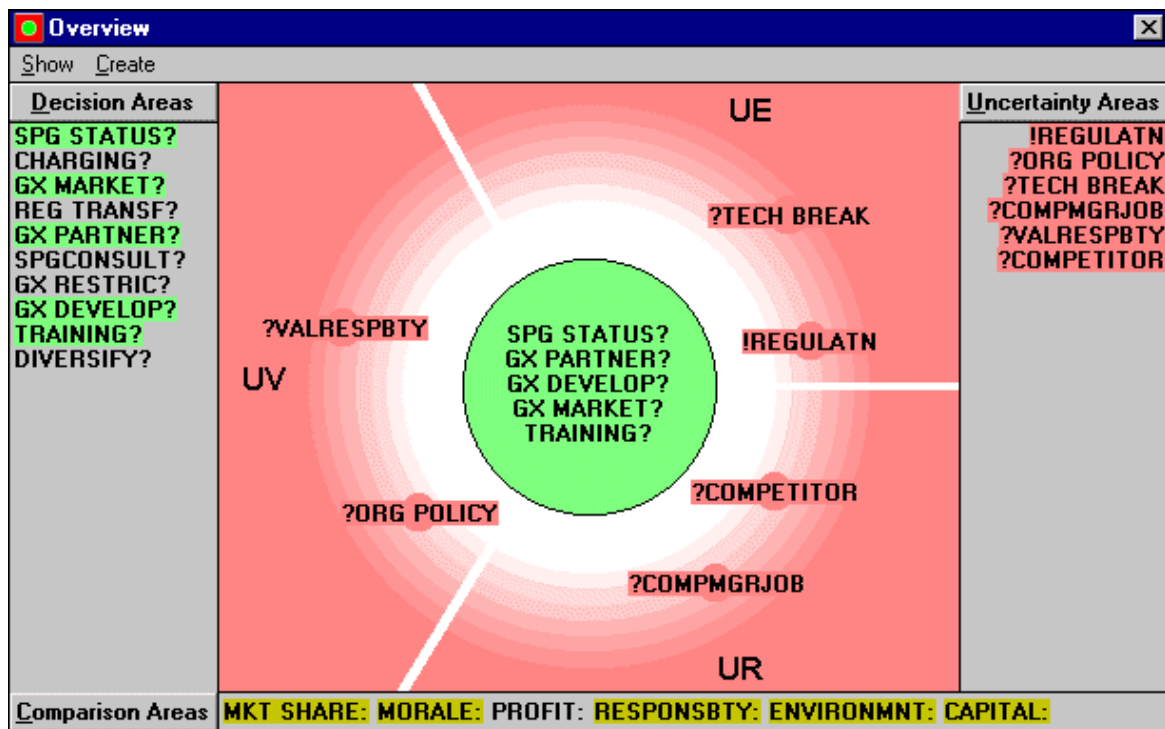
**The Customize Menu in Overview**

## Function of the Overview Window

- 5.1 The **overview window** of STRAD displays a summary of the current status of your project in graphical form. It enables you to look up and edit further details of any of the **decision areas**, **comparison areas** or **uncertainty areas** which have been entered so far to describe the elements of your project. It also enables you to create new areas of any of these three types.
- 5.2 A subsidiary **issue entry form** appears automatically within the overview window when you start work on a new project, and can be called up at other times as required. This form provides a flexible means of generating new issues of concern in relation to your project in a brainstorming fashion, classifying them as decision areas, comparison areas or uncertainty areas as you go.

## Layout

- 5.3 The general layout of the overview window is shown below. Around the periphery of the window appear lists of the labels of all the basic elements of your current project which have so far been entered: **decision areas** to the left; **uncertainty areas** to the right; and **comparison areas** at the foot - occupying two rows if necessary.



- 5.4 In these lists, the labels of all decision areas that are currently **in focus** (see section 5.8) appear highlighted. So do those of all uncertainty areas that have been **classified** (see section 5.9) and all comparison areas that have been **orientated** (see section 6.31).
- 5.5 A **question mark** appears against the label of any decision area which is currently open. Where a decision area has been **locked** - that is, where one of the options within it has been selected as a basis for action - the question mark is replaced by an **exclamation mark**. A similar convention applies to uncertainty areas - the exclamation mark in this case indicating that some kind of exploratory action has been selected.

## Limits to the Number of Areas in a Project

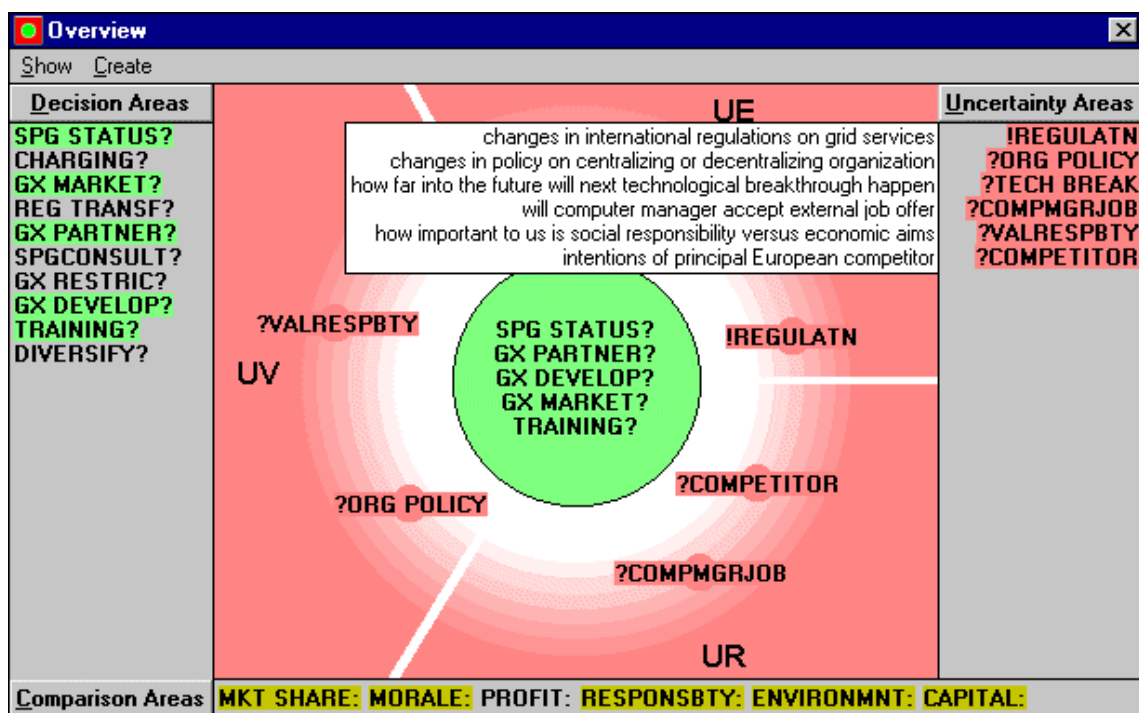
- 5.6 STRAD 2 enables you to specify up to **24 decision areas**, **24 uncertainty areas** and **12 comparison areas**. These limits are quite adequate for most practical purposes; but if you have reached the limit, you can delete unneeded areas to create new ones.

## The Overview Graph

- 5.7 When you are working on an existing project, the large central rectangle of the overview window is normally occupied by what is called an **overview graph**. This is designed to display all the main elements of the project which are of current concern in a clear visual perspective.
- 5.8 Within the central circle of the graph, you will see the labels of all the **decision areas** which are currently **in focus**, unless there are too many to fit within the circle; in that case, the total *number* of decision areas in focus will be displayed instead. All decision areas are treated as **ex focus** until brought into focus through the procedures of the **focus** window, which are to be explained in Chapter 7.
- 5.9 In the surrounding space you will see the labels of all the **uncertainty areas** which have so far been **classified** in relation to the three basic categories of uncertainty - **UE** (Environment), **UV** (Values) and **UR** (Related agendas), as explained in sections 2.6 to 2.8. You can read a fuller description of each of these types of uncertainty by clicking on the appropriate symbol where it appears towards the outer edges of the overview graph.
- 5.10 These classified uncertainty areas are positioned not only according to type but also according to their relative **prominence** in relation to the decisions to be made. The more prominent uncertainty areas appear closer to the centre of the graph.

## Viewing Area Details

- 5.11 If you click with your left mouse button on the header button at the top of the decision area list, the uncertainty area list or the comparison area list, a list of any fuller **descriptions** which have been entered will appear alongside the list of labels, as shown below.



- 5.12 By double-clicking on the label of any specific decision area, uncertainty area or comparison area, you can call up an **area detail form** containing various further information on that area. The formats of the three types of detail form, and the ways in which they can be used to enter and edit data, are described in Chapter 6. Any detail form can be called up by double-clicking on the label of the required area wherever it appears in the program. In the overview window, details of a decision area or an uncertainty area can be called either from the appropriate list, or from the overview graph if it appears there.

## The Show and Create Menus in Overview

- 5.13 The first menu option in the **Show menu** enables you to call up the **issue entry form** in place of the central overview graph. Further options enable you to adjust the relative levels of **importance** or **urgency** of your decision areas, or of any third attribute that you may have defined.
- 5.14 The **Create menu** contains three menu options - **Decision area**, **Comparison area** and **Uncertainty area**. Selecting any of these options calls up a blank area detail form of the relevant type, enabling you to create one new area at a time.

## Using The Issue Entry Form

- 5.15 The format of the **Issue entry form** is illustrated below. It enables you to generate any number of new issues of concern which you believe to have a bearing on your project, within the limits indicated in section 5.6. You can either classify them as decision areas, comparison areas or uncertainty areas as you go or - if in doubt - you can store them for later classification in an **issue bank**.
- 5.16 You can call up the issue entry form from the overview window at any time by selecting the **Issue entry form** option from the **Show menu**. When you are just starting work on a new project, the issue Entry Form automatically appears in the centre of the overview window in place of the overview graph.

The screenshot shows a window titled 'Overview' with a menu bar containing 'Show' and 'Create'. The window is divided into several sections:

- Decision Areas:** A list of green text items: SPG STATUS?, CHARGING?, GX MARKET?, REG TRANSF?, GX PARTNER?, SPGCONSULT?, GX RESTRIC?, GX DEVELOP?, TRAINING?, and DIVERSIFY?.
- Uncertainty Areas:** A list of red text items: IREGULATN, ?ORG POLICY, ?TECH BREAK, ?COMPMGRJOB, ?VALRESPBTY, and ?COMPETITOR.
- Form Fields:**
  - Description:** A text box containing 'possible retirement of present Finance Director' (Maximum 120 characters).
  - Label:** A text box containing 'FDRETIRE' (Max 10 characters).
  - Issue as:** A group of buttons: 'Decision Area', 'Comparison Area', 'Uncertainty Area', and 'Store in Issue Bank'.
  - Call:** A group of checkboxes: 'Decision Area Details' (checked), 'Comparison Area Details' (checked), and 'Uncertainty Area Details' (unchecked).
  - Close:** A button.
- Issue Bank:** A list of text items: 'retaining quality of policy advice to Directors', 'whether to join consortium for technological development', and 'impact of technological changes over next 10 years'. To the right of these items are the labels 'QUALADVICE', 'CONSORTIUM', and 'TEC IMPACT'.
- Comparison Areas:** A row of yellow text items: MKT SHARE, MORALE, PROFIT, RESPONSBTY, ENVIRONMNT, and CAPITAL.

- 5.17 At the top of the form, you are invited to enter a **description**, of up to 120 characters, for the next new issue you wish to enter. Then, you can either click on the next field entitled **Label**, or move to that field using the **tab** key, to enter a brief label of up to ten characters for normal working use. Initially, the first ten characters of your full description will be suggested as a working label; but you can overwrite or edit this if it is not appropriate.
- 5.18 If you are confident as to how you wish to classify your current issue, then you can now select the relevant type either by clicking on the button for either **Decision Area**, **Comparison Area** or **Uncertainty Area**, or by pressing the **tab** key one or more times then **enter**.

- 5.19 You can opt at this stage either to enter **fuller details** on each decision area, comparison area or uncertainty area or - by turning off one or more of the check boxes within the form - to bypass this step in the cause of faster progress. You might, for example, choose to enter fuller details of all decision areas and comparison areas as soon as you define them, but not to enter details of uncertainty areas until a later stage.

### The Issue Bank

- 5.20 If you cannot decide at this stage whether to treat an issue as a decision area, a comparison area or an uncertainty area, then you can store it temporarily in the **issue bank**, where it will remain until such time as it is classified.
- 5.21 By clicking on any issue already listed in the issue bank, you can bring its description and label back to the top of the form. This enables it to be edited, and classified as one of the three basic area types if desired.

### Adjusting Levels of Importance for Decision Areas

- 5.22 The **Importance** option on the **Show** menu calls up a list of the labels of all decision areas - accompanied by longer descriptions where these exist - with a visual indication of the relative level of *importance* which is attached to each, as shown overleaf.
- 5.23 This importance level will appear at the half-way point of the scale, unless a different level has already been set. You can use your left mouse button to adjust the relative importance levels of any of the decision areas in the list.
- 5.24 Also, you can adjust the position of the pointer at the foot of the list which indicates the **critical level** above which a decision area label will be treated as of high importance. Decision areas above this critical level are distinguished by the use of red lettering in both the focus window and the progress window. This critical level also determines the score of a decision area in the focus selection procedure described in section 7.22 - unless you have selected the *proportional* option as explained in section 7.26.

The screenshot shows the 'Overview' window with a menu bar containing 'Show' and 'Create'. The window is divided into several sections:

- Decision Areas:** A list of items with red progress bars indicating importance levels:
  - SPG STATUS?
  - CHARGING?
  - GX MARKET?
  - REG TRANSF?
  - GX PARTNER?
  - SPGCONSULT?
  - GX RESTRIC?
  - GX DEVELOP?
  - TRAINING?
  - DIVERSIFY?
- Importance:** A horizontal scale with a red bar and a white pointer. A 'Critical level' is marked with a triangle at the bottom of the scale.
- Descriptions:** Text descriptions for each decision area, such as 'organizational status of Special Projects Group' for SPG STATUS? and 'to what extent should Universal Grid Services diversify into related markets' for DIVERSIFY?.
- Uncertainty Areas:** A list of items in red text: IREGULATN, ?ORG POLICY, TECH BREAK, ?COMPGRJOB, ?VALRESPBTY, and ?COMPETITOR.
- Central Diagram:** A circular diagram with a green center and red outer rings. Labels include 'GX DEVELOP?', 'GX MARKET?', 'TRAINING?' in the center, and '?ORG POLICY', '?COMPETITOR', and '?COMPGRJOB' around the perimeter. The letters 'UE' are at the top and 'UR' at the bottom.
- Comparison Areas:** A row of labels: MKT SHARE: MORALE: PROFIT: RESPONSBTY: ENVIRONMNT: CAPITAL:.

### Adjusting Levels of Urgency for Decision Areas

- 5.25 The **Urgency** option on the **Show** menu calls up a list of the labels of all decision areas - accompanied by longer descriptions where these have been entered - with a visual indication of the relative level of *urgency* which is attached to each.
- 5.26 As in the case of importance, this urgency level will appear at the half-way point of the scale, unless a different level has already been set. You can use your left mouse button to adjust the relative urgency levels of any of the decision areas in the list.
- 5.27 As in the case of importance, a pointer at the foot of the list indicates a **critical level** of urgency, which you can adjust if you wish. A decision area above the critical level of urgency will appear in a red bordered ellipse when you open the focus window. Its score in the focus selection procedure will be affected in the same way as already explained for importance in section 5.24.

### Defining a Third Decision Area Attribute

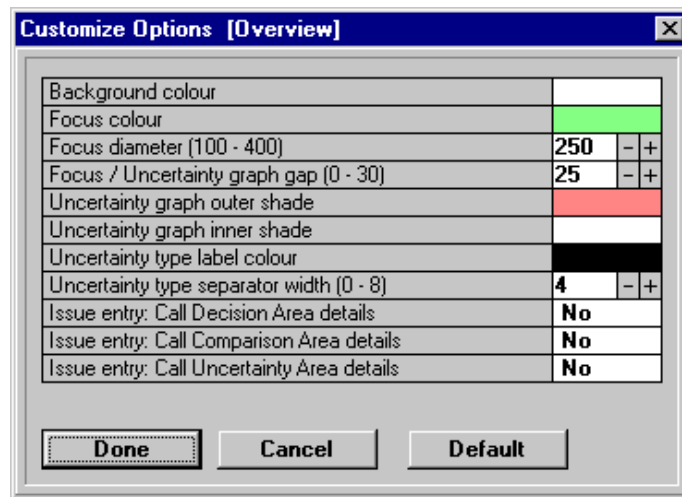
- 5.28 In addition, you can use the **Customize** menu, as described in section 3.41, to define a **third attribute**, in addition to **importance** and **urgency**, through which to distinguish between the levels of significance of your decision areas. Examples of such attributes might be the relative level of *influence* or *control* over a decision area, or the level of importance as seen from some *different political perspective* to that of the pre-set importance attribute.
- 5.29 Once you have defined such an additional attribute, it will appear as an additional item on the **Show** menu in the overview window, and also as an additional field in the decision area detail form. You can then make assessments and adjustments of level in exactly the same way as for importance and urgency.

### Creating New Areas

- 5.30 When you simply wish to add one new area of a specific type, the **Create** menu offers a quicker alternative to the use of the issue list. By selecting the appropriate option from the **Create** menu - either **Decision area**, **Comparison area** or **Uncertainty area** - you will pull down a blank detail form of the appropriate type. The format of these detail forms will be described in Chapter 6.
- 5.31 You can then enter a description followed by a label in the relevant fields at the top of the form, followed by as many other details as you judge appropriate at this stage. To return to the overview window, now click on **done**.

### The Customize Menu in Overview

- 5.32 Whenever the overview window is open, the **Customize** menu on the main STRAD menu bar offers you an **Overview** option as well as a **General** option and specific options for any other windows which may also currently be open. If you now select **Overview**, you will see the list of options indicated opposite



- 5.33 These menu options enable you to customize the colours and dimensions of various features of the overview menu. Note that any changes you make here will apply not only to your current project but to any others on which you work with STRAD, until such time as they are reversed.
- 5.34 If you click on the colour box on line 1, 2, 5, 6 or 7 in this list, a palette of 20 colours will appear within which you can make your selection. If you would prefer a wider choice, you can click on the **palette** button to call up a broader selection of basic and custom colours.

## **CHAPTER 6:**

### **The Area Detail Forms**

#### **In This Chapter**

**Function of the Area Detail Forms**

**Calling up an Area Detail Form**

**Common Features**

**The Decision Area Detail Form**

**Specifying Options within a Decision Area**

**Entering Option Descriptions**

**Locking and Unlocking Decision Options**

**Importance, Urgency and Other Attributes**

**Specifying Sectors of Responsibility**

**The Comparison Area Detail Form**

**Orientating a Comparison Area**

**Cancelling the Orientation of a Comparison Area**

**Defining Units of Measurement**

**The Uncertainty Area Detail Form**

**Classifying an Uncertainty Area**

**Prominence and Tractability**

**Allocating Uncertainty Areas to Sectors**

**Entering and Assessing Exploratory Options**

**Locking and Unlocking Exploratory Options**

**Entering Further Notes on Areas**

**Entering Action Details**



## Function of the Area Detail Forms

- 6.1 Chapters 7 to 14 will describe the functions of the remaining seven process windows of STRAD. To pave the way for these later chapters, the present chapter will describe the various data entry and editing operations which you can carry out through the three basic types of **area detail form**: the **decision area detail form**, the **comparison area detail form** and the **uncertainty area detail form**.
- 6.2 In general, the function of these three types of detail form is to enable you to enter, edit or inspect various kinds of supporting information about the areas of concern that you have created in describing the elements of your current project. These areas of concern can be entered either by use of the *issue entry form* as described in sections 5.15 to 5.18, or by use of the *Create menu* of the overview window as described in sections 5.30 and 5.31.

## Calling up an Area Detail Form

- 6.3 The area detail form for any decision area, comparison area or uncertainty area is called by double-clicking on its label with your left mouse button wherever the label appears in any of the eight main process windows of STRAD or their subsidiary windows.

## Common Features

- 6.4 This supporting information relates to different features of the area, according to whether you have classified it as a **decision area**, a **comparison area** or an **uncertainty area**. Each type of form contains a set of data fields and buttons which can be selected either in sequence by pressing the tab key, or more directly by using your left mouse button.
- 6.5 Certain of these fields and buttons are common to all three types of form. These will now be described, before expanding on the distinctive features of each of the three types of form in turn.
- 6.6 Immediately below the title bar on the detail form, which indicates the type of area to which it refers, there appears in each case a long field recording the **area description** on the left, and a shorter field recording the **area label** on the right.
- 6.7 Where you have created the area through the issue entry form, this information will already exist. However, where you have created it through the Create menu in overview, it will have to be entered on a blank area detail form. The area description and label may be edited at any time.
- 6.8 Each type of form also includes a **Done** button, to enable you to register any changes in area details which you have made. Below this button is a **Delete** button, which will delete the area from your project file; and a **Cancel** button which closes the window without registering any changes made since you opened the form.
- 6.9 In addition, each type of form includes a **Notes** button, for entering freeform text notes on any significant circumstances relating to an area which cannot be recorded in any of the fields provided on the detail form. Clicking on this button opens a standard *notes form*, the use of which will be discussed in sections 6.54 to 6.57.
- 6.10 The decision area detail form and the uncertainty area detail form - but not the comparison area detail form - also include an **Actions** button. This button is intended for use only when you are ready to specify some course of present or future action in relation to an area, and its use will be discussed in sections 6.58 to 6.62.

## The Decision Area Detail Form

- 6.11 For every decision area which you have created, you can call up an associated **Decision Area Detail Form**. This is done by double-clicking on the decision area label in any of the STRAD process windows where it is displayed.

- 6.12 In addition to the two initial fields recording the **description** and **label** of the decision area, as already described in section 6.6, the decision area detail form also includes various other fields relating to the choice of **options** available within this decision area; the level of **importance** and **urgency** of this decision area relative to others; and the primary **sector** within which organizational responsibility for this decision area lies.

### Specifying Options within a Decision Area

- 6.13 The most important field in the form is that which invites you to enter labels for at least two and at most six decision **options**, in order to indicate the range of choice available within the decision area. An option label cannot be more than 10 characters in length. You can delete an existing option by highlighting it then pressing the **delete** key twice.
- 6.14 Sometimes, it is easy to specify the full range of options; in other cases, a considerable element of judgement is involved. In general, you are advised to enter a set of options which are both **representative** of the full range of choice and, so far as possible, **mutually exclusive**. Where it is possible to adopt a strategy combining elements of two or more options, then a third mixed option (e.g. **both**) can be entered in addition to the others.
- 6.15 Where a decision area involves choice of a level on a continuous scale, then either a few representative points on the scale can be entered as options, or terms can be used to reflect broad emphases or choices of direction: for example **decrease**, **as now** and **increase**. This level of simplification - together with the restriction to a maximum of six options per decision area - can be justified when you are working at a strategic level of analysis with several interconnected areas of choice.
- 6.16 If you wish to identify options quickly, by means of working labels without fuller descriptions, then you can do this directly after opening the decision area detail form, by typing the label of the first option as soon as the cursor has been placed in the top left corner of the **Decision options** field. Then press the **tab** key, whereupon the cursor will drop to the start of the second line, enabling you to enter a second option. You can go on to specify as many options as you wish, subject to the permitted maximum of six.
- 6.17 If you are uncertain whether or not a particular option will be available, press the question mark key **?** when the cursor is at the end of the option label: the label will then appear in a grey tone rather than black, both here and anywhere else where it appears. The uncertainty can be removed again by pressing **?** once more.

### Entering Option Descriptions

- 6.18 You can also register fuller **option descriptions** in addition to brief labels, if your situation is one where it is important to clarify more precisely what each option means. To do this, click with your left mouse button on the **descriptions** button in the decision area detail form. This extends the

width of the option field as shown below, creating a space to the left within which you can enter a description of up to 60 characters in addition to your label.

- 6.19 The tab key will now move the cursor from the left to the right section of the extended option field before moving down to the next line. As in the case of decision area labels, an option label will be suggested based on the first ten characters of your description; but this may be edited or overwritten if desired.

- 6.20 After you have finished entering option descriptions and labels, you can reduce the options field to its normal size again by clicking with your left mouse button just outside its borders. The importance, urgency and sector fields will all now reappear.

### Locking and Unlocking Decision Options

- 6.21 Notice that, as soon as you enter an option label, a small **option status button** appears to its right. This button is initially blank; but if you click on it at any time, a small **key symbol** appears within it, indicating that the option has been **locked**. This means that you have selected it as a basis for decision, so that the remaining options are no longer available.
- 6.22 You can **unlock** the option again by a second click on the status button; this makes the full range of options available once more. The labels for any options which are not available because they are *incompatible* with options which are currently locked in other decision areas will appear struck through, and a cross will appear on the option status button.

### Importance, Urgency and Other Attributes

- 6.23 To the left of the details box are two fields in which the levels of **importance** and **urgency** of a decision area relative to other decision areas are displayed by means of coloured strips. High levels of importance or urgency are indicated by extending the coloured strip to the right. Either level can be edited by clicking with the left mouse button in the desired position. Initially, every decision area appears with both importance and urgency set at a half-way position on the scale.
- 6.24 As already mentioned in sections 5.28 and 5.29, you can if you wish add a **third attribute** to these two; for example, to indicate level of **control** over this decision area, or its level of importance as seen from a different organisational or political perspective.

### Specifying Sectors of Responsibility

- 6.25 In the bottom left corner of the decision area detail form appears a **sector field** in which you can specify the particular **sector of responsibility** within which the main responsibility for this decision area lies. This could be an individual, a section, a department or an organization or agency, depending on your context.
- 6.26 The button to the right of the sector field enables you to pull down the full list of sectors which has so far been specified. To define a sector of responsibility for your current decision area, you can either select an existing sector from the list or type the name of a new one in the space provided.

- 6.27 Sectors of responsibility are used in organizing the format of the **progress package**, as described in Chapter 13. Also, you have an option of using different fill colours to differentiate sectors of responsibility in the decision graph, by using the customize menu as described in section 7.42.

### The Comparison Area Detail Form

- 6.28 For every **comparison area** you have generated, you can call up an associated **Comparison Area Detail Form**. This is done by double-clicking on the comparison area label in any of the STRAD process windows where it appears. The layout of this form is set out below.

share of total grid market in this country		MKT SHARE:	Done
Left direction	Right direction		
lower share	higher share		
<	PREFERRED	>	Delete Cancel
Units	% share		Notes

- 6.29 The function of the comparison area detail form is to enable you to view, edit or add various other supporting information relating to that comparison area, including in particular information on **direction labels**; **preferences** between directions; and any **units of measurement** which you intend to use in assessing the differences between decision options or schemes in relation to the particular criterion for choice represented by this comparison area.
- 6.30 You can then either move from field to field in sequence by means of the **tab key** (*shift + tab* for reverse), or you can select any particular field to edit by pointing at it and clicking with the left mouse button.

### Orientating a Comparison Area

- 6.31 The two fields headed **Left direction** and **Right direction** in this detail form enable you to enter a pair of words or phrases with which to **orientate** your comparison area, before using it to assess the differences between decision options or schemes.
- 6.32 You are advised to choose a pair of *comparative* phrases which are well-balanced; and will also be as explicit as possible when used to assess the differences between decision options or schemes. For example, you could orientate a comparison area of *cost* by entering *cheaper* as the left direction and *dearer* as the right direction, or vice versa if you prefer. For an *effectiveness* comparison, you might choose *less effective* and *more effective* respectively.
- 6.33 Having done this, you can click on the small arrow button beneath whichever of your two directions is preferred. The word **preferred** will then appear against the selected direction.
- 6.34 If you wish, you can leave the expression of a preference until later; indeed, you can even reverse your preference at a later stage. However, only comparison areas where a preferred direction has been specified can be used in the multi-criteria comparison procedures discussed in Chapters 10 and 11; and it is only these comparison areas which are shown highlighted in the overview window.

### Cancelling the Orientation of a Comparison Area

- 6.35 If you no longer wish to use a particular comparison area - for example, if it has been superseded by other more specific comparison areas, or if you no longer feel it is important. Then you can **cancel** its orientation by clicking in the grey space in the opposite side of the direction panel to that where the word **preferred** now appears. The basic information on the comparison area will still remain in the project file, but it will no longer be used in comparing options and schemes.

## Defining Units of Measurement

- 6.36 In the bottom left corner of the comparison area detail window is a field in which you can register **units of measurement** for your comparison area if you wish. These can then be used in *calibrating* the differences between decision options and schemes, as described in sections 10.42 to 10.50. Once you have typed in your units - e.g. £000, \$ per annum, % share - these will appear as a guide to your assessment of option and scheme differences using the option and scheme assessment windows to be described in Chapter 10.
- 6.37 Note that STRAD does not require you to invent artificial units of measurement in cases where no realistic or meaningful scales of measurement can be identified. In such cases, you are encouraged to assess differences on a purely visual rather than a numerical basis. For, as will be discussed in Chapter 10, STRAD incorporates procedures whereby the value weightings between comparison areas can be set and adjusted in a purely visual way.

## The Uncertainty Area Detail Form

- 6.38 For every **uncertainty area** which you have generated, you can call up an associated **Uncertainty Area Detail Form**, by double-clicking on the uncertainty area label in any of the STRAD process windows where it appears. The format of this form is shown below.

Exploratory Options:	Labels	Cost	Delay	Gain
raise for discussion at next Board meeting	board discu	→	→	←
informal soundings with key board members	soundings	→	→	←

- 6.39 In addition to the standard fields which display the description and label of your uncertainty area, this detail form also includes fields for recording information on its **classification**; its **prominence** and **tractability** relative to other uncertainty areas; and any **exploratory options** which might be considered in order to reduce the prominence of the uncertainty area in relation to the decisions currently in view.
- 6.40 Within the form, you can move from field to field in sequence by means of the *tab* key (shift + tab for reverse); or you can select any particular field directly by pointing at it and clicking with the left mouse button.

## Classifying an Uncertainty Area

- 6.41 The square field in the centre of the form is used to indicate the **type** of your uncertainty area in terms of the **UE**, **UV** **UR** categories of the strategic choice approach. These categories are explained in sections 2.7 and 2.8; the definition of each category can also be read by clicking on the appropriate label on the overview graph.
- 6.42 Where an uncertainty area has already been classified, a black radial marker or “hand” appears at an appropriate “clock position”. If no such marker is to be seen, then the uncertainty area has not yet been classified; and you can classify by clicking at any desired clock position within the square.
- 6.43 This procedure enables you to classify an uncertainty area either as belonging clearly within a particular category, or as occupying some intermediate position between any two categories, Note that you can edit your classification at any time by clicking on a different clock position within the square.

## Prominence and Tractability

- 6.44 In a field to the left of the uncertainty detail form you can enter your judgement of the level of **prominence** of this uncertainty area in relation to other uncertainty areas; in other words, the extent to which you judge that this uncertainty area presents a serious obstacle in your current decision process. Note that you may wish to review the level of prominence whenever your project focus changes, because such a change may cause some areas of uncertainty to become more prominent and others less so.
- 6.45 The level of **tractability** of an uncertainty area is an expression of how easy or difficult you expect it to be to take some action designed to reduce its current level of prominence; this is represented by a leftward-pointing arrow in the field below the prominence field. The position of this arrow can be altered by clicking with the left mouse button. A short arrow indicates low tractability - in other words, that the uncertainty area is more difficult to deal with - while a longer arrow indicates high tractability.

## Allocating Uncertainty Areas to Sectors

- 6.46 Just below the prominence and tractability fields is a **sector** field in which you can enter a label specifying the organizational sector within which the main responsibility for dealing with this uncertainty area is to be found. The procedures involved are exactly the same as for decision areas, as described in sections 6.25 to 6.27.

## Entering and Assessing Exploratory Options

- 6.47 The set of fields at the foot of the uncertainty area detail form allows you to enter descriptions and labels for up to three possible **exploratory options** - that is, actions which you might consider pursuing in order to reduce the level of prominence of this uncertainty area. If you type in a **description** first, then its first ten characters will be suggested as a brief **label** when you move to the next field - and this can then be edited or overwritten if desired.
- 6.48 Having entered an exploratory option, its expected consequences can then be compared against the consequences of taking no exploratory steps at all - and also against any other exploratory options you may consider - by adjusting the positions of the arrows in the three fields labelled **cost**, **delay** and **gain**.
- 6.49 Within the **Cost** field, you may wish to consider such factors as impositions on the time and energy of busy people, as well as direct financial costs. The **Delay** field relates to the effects of delaying urgent decisions, while the **Gain** field relates specifically to gain in *confidence* in decision-making. Note that its width is initially set to reflect the current estimate of the **prominence** of this uncertainty area, with a left-pointing arrow reflecting its **tractability**.
- 6.50 You may now therefore set the **gain** arrow at a different level, according to the expected effectiveness of any exploratory option you may consider. This level is stored as a proportion of the current prominence level for the uncertainty area; so, should you alter the prominence level at any time to reflect a change of project focus, the proportional level of gain will remain the same.

## Locking and Unlocking Exploratory Options

- 6.51 After using this procedure to help you judge whether or not the **gain** to be expected from following any exploratory option is such as to outweigh the **cost** and **delay** incurred, you can then either decide that no exploratory option is worth while in your current circumstances; or you can proceed to select and **lock** a preferred exploratory option.
- 6.52 If you have identified more than one exploratory option, this will mean considering which one of them, if any, is most likely to yield such a high return - in the form of gain in confidence - as to outweigh its resource costs and any penalties there may be in terms of delay to urgent decisions.

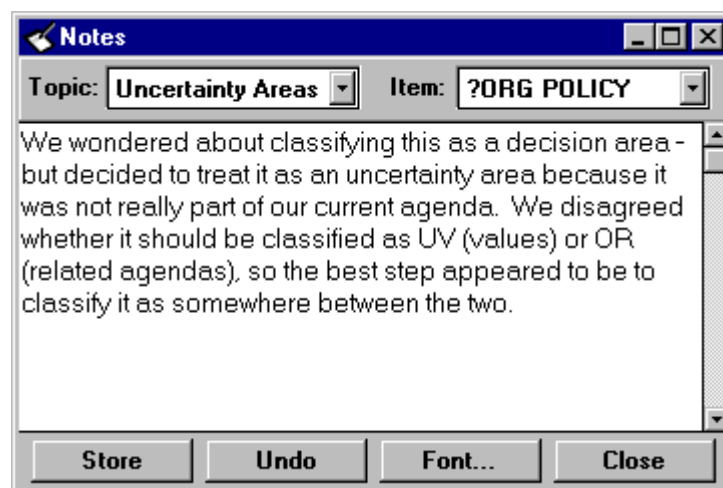
6.53 Having judged in this way the relative **resource-effectiveness** of different exploratory options, you can then proceed to lock your proposed option - if any - by clicking on the small **option status button** to its right. This will place a locked (key) symbol against that uncertainty area - which registers it as an exploratory option to be included as an element in your progress package.

### Entering Further Notes on Areas

6.54 The **Notes** button which appears on the detail form for each decision area, comparison area or uncertainty area enables you to call up a **Notes** window within which you can enter freeform text notes in order to register any aspects of your work on an area which cannot be recorded in any of the specific fields provided.

6.55 You may wish to use this feature, for example, to register any doubts or special circumstances affecting particular decision options; or any difficulties you may have encountered in agreeing how an area should be formulated; or any events causing options to be added or removed at particular stages of your work.

6.56 The layout of the **Notes** window is illustrated below; it is the same for each type of area. Notes can be entered and edited in this window in the normal way, and the window will scroll if required. If you wish to inspect, edit or enter notes on other areas of the same type, you can do this by clicking on the arrow button to the right of the **Item** field to pull down the full list of areas. If you wish to inspect, edit or notes on a different type of area - or under a **Miscellaneous** heading as discussed in section 4.20 - then you can do this by clicking on the arrow button against the **Topic** field.



6.57 Once a note of any kind has been entered for an area, the notes button on the detail form will read **Notes** instead of **Notes**. Whenever you reopen the form, this will then serve as an indication that there is a note of some kind to be read.

### Entering Action Details

6.58 The **Action** button which appears in both the **decision area detail form** and the **uncertainty area detail form** calls up an extension to the form in which you can enter any proposals or agreements as to **how, when, by whom** or with what **resources** or **authority** action is to be taken to deal with this particular decision area or uncertainty area.

6.59 The layout of this extension in the case of a decision area is illustrated below; it takes exactly the same form in the case of an uncertainty area. You can move down from one line to the next by using the **tab** key or the mouse pointer in the normal way, and normal windows editing conventions apply.

- 6.60 Once any action details have been entered, the **Action button** will read **Actions**, to signify that this has been done.

The screenshot shows a window titled "Decision Area Details" with a blue header and a green border. The window is divided into several sections:

- Title Bar:** "Decision Area Details" with a close button (X).
- Header:** "organizational status of Special Projects Group" on the left and "SPG STATUS!" on the right.
- Importance/Urgency:** Two red progress bars labeled "Importance" and "Urgency".
- Decision Options:** A text area containing "as now separate join ISD".
- Buttons:** "Done", "Delete", "Cancel", "Notes", and "Actions".
- Sector:** A dropdown menu set to "Board".
- Descriptions:** A text area with a document icon.
- Action Details Table:**

What to do	recommend to Board that SPG become a separate company
When	14 days before next Board meeting
Who	Administration Director
Resources/Authority	requires approval of Finance Director

- 6.61 You are not advised to enter any such **action details** until you have reached the stage of developing a particular **progress package** as a basis for possible recommendation or commitment, or at least as a proposed strategic option. At that stage, you may wish to enter action details for any decision areas or uncertainty areas which appear in the **now** section of the package - because this means that particular decision options or exploratory options have been selected and locked within them.
- 6.62 It is also possible, however, for you to enter action details for other decision areas or uncertainty areas which remain open in the future section, in order to specify any procedures, timescales or responsibilities which it is agreed should apply to these



## **CHAPTER 7:**

# **The Focus Window**

### **In This Chapter:**

**Function of the Focus Window**

**Window Layout**

**Positioning Decision Areas**

**Linking and Unlinking Decision Areas**

**Advice on Editing Decision Graphs**

**The Menu Bar and Toolbar in the Focus Window**

**Serial Numbering of Decision Graphs**

**The Graph Menu in the Focus Window**

**The Focus Menu**

**Using the Focus Selection Aid Procedure**

**Adjusting the Selection Aid Procedure**

**Viewing the Selected Decision Areas**

**Using a Focus Zone**

**Advice in Selecting a New Focus**

**Customizing Features of the Focus Window**

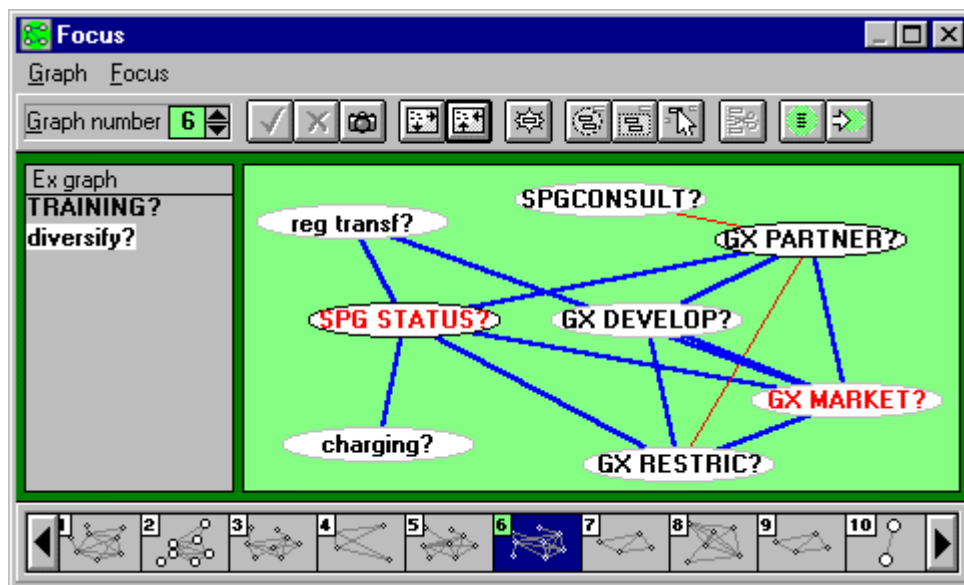
**Assigning Colours to Sectors of Responsibility**

## Function of the Focus Window

- 7.1 The purpose of the **Focus window** is to enable you to explore the patterns of interconnection among your **decision areas**; and, where there are too many of these for you to examine in depth at the same time, to help you to choose a more compact **project focus**. In selecting the set of decision areas you wish to include in this focus, you can use a combination of factors including **interconnectedness, importance** and **urgency**.

## Window Layout

- 7.2 The layout of the Focus window is illustrated below. The main rectangular area displays your current **decision graph**: that is, a graphical representation of some or all of the decision areas you have generated, represented by elongated ellipses containing their labels, with connecting lines between those pairs which are currently seen to be **interconnected**. When you first open the window, the decision graph shown will be that which contains only the set of decision areas in your current **project focus**; this is known as **the focus graph**.



- 7.3 The labels of any decision areas not in your current decision graph are shown in an **ex graph** list to the left of the window. As in other process windows, any decision areas which are currently **locked** - that is, where a particular option has already been selected as a basis for decision - are indicated by an exclamation mark rather than a question mark, both in the decision graph and in the list.
- 7.4 The labels of any decision areas for which options have not yet been specified are indicated - in the focus window only - by the use of *lower case* rather than capitals. *Red labels* are used to indicate any decision areas which are of high importance, according to the critical level as set in the overview window, while black *borders* are used to indicate any of high urgency. Also, the **Customize** menu can be used to define different background colours for different **sectors of responsibility**, as explained in section 7.42.
- 7.5 A **Synopsis strip** at the foot of the Focus window displays a scrollable sequence of small frames showing miniature pictures of all the graphs in your numbered sequence so far. By clicking within the area of any of these frames, you can display the full graph will appear in the main window, enables you to read the decision area labels and to make any changes you may wish. The synopsis strip appears automatically by default unless cancelled by an option in the **Customize** menu.

### Positioning Decision Areas

- 7.6 In the decision graph, you can use your *left mouse button* to drag any decision area into a different position. You can also use it to drag any **ex graph** decision area inside the graph, placing it in whatever position you wish; or to drag any decision area within the graph back into the ex graph list. The current dimensions of the rectangle can be altered by resizing the window.
- 7.7 When you first open the decision graph window for a new project, all your decision areas will appear in the **ex graph** list. You can therefore make your own selection of those which you wish to include in the decision graph, deciding where you wish to place them in relation to each other

### Linking and Unlinking Decision Areas

- 7.8 Within the decision graph, you can use your **right mouse button** to enter or edit **decision links** between any pairs of decision areas which are judged to be directly **interconnected** - in other words, where you have reason to believe that the outcome of considering them jointly might be different from the outcome of considering each of them separately.
- 7.9 To draw a new link between any pair of decision areas, first select either one of them with your mouse pointer, then drag the pointer using your **right** mouse button until it is over the label of the other decision area. When you release the button, a straight line will be drawn to connect the two decision areas. If you press the ? key before releasing the button, the line will be drawn thinner and in a different colour, signifying a more tentative or **uncertain** link.
- 7.10 The same dragging operation can be used to remove an existing link. An uncertain link may be converted into a firm link by dragging with the right mouse button in just the same way as for unlinked decision areas; a firm link can be converted to an uncertain link by dragging then pressing the ? key before releasing.

### Advice on Editing Decision Graphs

- 7.11 Before you start repositioning decision areas, adding or removing links or editing your decision graph in any way, you are advised to **copy** it - using the procedure to be described in section 7.18 - if you believe you may want to preserve a record of your decision graph in its present form.
- 7.12 If the pattern of intersecting lines in your graph begins to look confusing, you are advised to try repositioning some of the decision areas so as to remove crossovers as far as possible. The more you do this, the more you will clarify the overall structure of the graph. In this repositioning process, it is advisable to begin with those decision areas which have relatively few links to others.

### The Menu Bar and Toolbar in the Focus Window

- 7.13 At the top of the focus window, you will see a menu bar providing access to two main menus - **Graph** and **Focus** - and, below this, the **Focus window toolbar**. The various buttons on this toolbar provide direct access to the main options within the two menus.

### Serial Numbering of Decision Graphs

- 7.14 The focus window toolbar also displays a **serial number** indicating the position of the current graph within the sequence of graphs which has been generated for your project so far - initially, this number will be 1.
- 7.15 The particular graph in the sequence which defines the current project focus is identified by a green background to the serial number; and also by a green background to the graph itself.

- 7.16 STRAD 2 enables you to store and retrieve a succession of decision graphs in order to reflect different stages in the shaping of your project, through the various procedures now to be described.

### The Graph Menu in the Focus Window

- 7.17 The **Graph menu** of the focus window gives access to a set of procedures all of which involve operations to your current decision graph taken as a whole. These procedures - all of which have equivalent buttons on the left side of the focus window toolbar - are as follows:



- 7.18 The **Previous** and **Next** menu options - or the corresponding *arrow buttons* on the toolbar - enable you to move backwards or forwards in the numbered sequence of graphs. Notice that the size of the window may change as you move from graph to graph. The **Store** and **Undo** options (the *tick* and *cross* buttons on the toolbar) only become active once you start editing a graph, enabling you to accept or cancel your changes. The **Copy** menu option, or the corresponding *camera button* on the toolbar, will make a copy of your present graph, allocating to it the next free graph number.

- 7.19 The **Size graph** menu option resizes the graph so as to fill the full space of the rectangle, without altering the relative positions of the decision areas. The **Size window** menu option resizes the window so as to fit more closely to the dimensions of the graph. The **Undo** menu option restores the graph to the state it was in before you started making your current changes.

### The Focus Menu

- 7.20 The **Focus menu** in the decision graph window gives access to a further range of procedures, all of which contribute to the use of your current decision graph in selecting a smaller focus for further work on your project within the **combine**, **scheme**, **assess**, **balance**, **uncertainty** and **progress** windows. These procedures - all of which have equivalent buttons on the right side of the focus window toolbar - as follows:



- 7.21 The basic procedure for selecting a more compact focus involves highlighting all those decision areas within your present graph that you wish to include, then excluding the others. You can either make your selection purely by eye, or you can make use of either or both of the **Selection aid** and **Focus zone** procedures, to be explained in the sections that follow. By choosing the **Highlight Decision Areas** option, or the corresponding *pointer button* on the toolbar, you can start clicking on the decision areas to be included one at a time to highlight them; a second click cancels a highlight.
- 7.22 The **Cut out** option (scissors button) will then exclude all other decision areas from your graph; if you wish to give this new graph a new number, now select **Copy**. To accept the reduced graph as your new focus, now select the **Adopt as Focus** option. During any future work within this focus, the decision areas will be displayed in the sequence as highlighted. At any time, note that you can revert to the existing focus graph through the **Go to focus graph** option.

### Using the Focus Selection Aid Procedure

- 7.23 The **Selection Aid** option in the Focus menu provides an aid to your own judgement in selecting decision areas for inclusion in a new project focus, by searching for clusters of decision areas within the graph which score highly in terms of *interconnectedness*, *importance*, *uncertainty* and other attributes. You can adjust the scoring system to your own current priorities, and you can override the recommendations offered by STRAD whenever you wish.
- 7.24 When you choose the selection aid option from the Focus menu, or click on the corresponding button in the centre of the decision graph toolbar, a **selection aid window** appears superimposed on the focus window, as shown opposite. In this window, you can either accept or edit various parameters which define the rules that
- 7.25 In its default setting, this procedure will search for the highest-scoring **triad** within the graph - in other words, the highest-scoring set of three fully interconnected decision areas - applying a pre-defined points scoring system.
- 7.26 In this default system, two points are allocated for each firm decision link and one point for each uncertain decision link, including any links from decision areas inside the graph to those currently outside. Two points are also allocated for each decision area above the critical importance level; and two points for each decision area above the critical urgency level. If a third decision area attribute has been defined as explained in section 5.28, this too will appear with the same default scores.

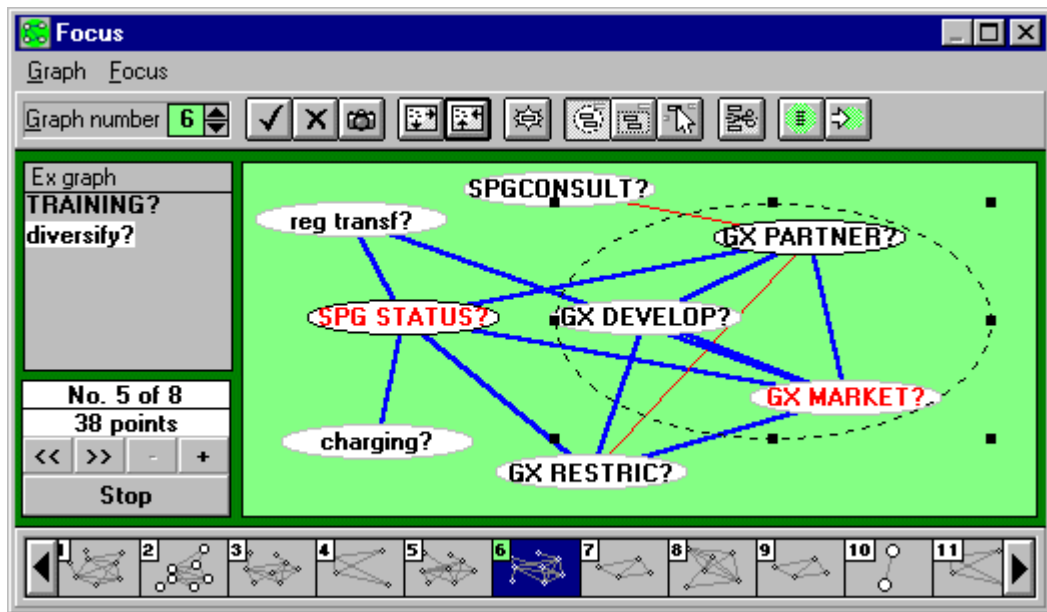


### Adjusting the Selection Aid Procedure

- 7.27 Any of these default scores can be altered to any other integer between 0 and 9 by means of arrow buttons. The critical levels for importance, urgency and other attributes can be adjusted as explained in section 5.24. Also, by clicking on **proportional** against one of these attributes, you can make the procedure take into account the proportional distance of each decision area above or below the critical level which has been defined, as opposed to merely scoring if it comes over the critical level.
- 7.28 In addition, by clicking on the arrow against "highlight" at the top of the window, you can pull down further options which instruct the procedure to select either **pairs** of decision areas or **single** decision areas instead of **triads**.

### Viewing the Selected Decision Areas

- 7.29 Having adjusted these various parameters to your requirements - or accepted the default values - you can now click on **Okay** to close the selection aid window. On your current decision graph, the highest scoring set of three decision areas - or pair or single decision area, if you have altered the default setting - will begin to flash intermittently. This set of decision areas is offered as a recommended starting point for the choice of a new project focus.
- 7.30 You will now see a small panel at the foot of the "ex graph" column, which you can use to explore further alterations of focus if you wish. The layout of this panel is illustrated below.



- 7.31 On the first line within the score panel, you will see a serial number - initially 1 - with a count of how many other similar clusters (triads, pairs or single decision areas) are available in your graph.
- 7.32 Below this number, you can read how many points in total your current selection scores. If you have selected proportional scoring for importance, urgency or another attribute, then this score will be expressed to the nearest integer. You can now press the double arrow >> button to select the next best cluster in the sequence and examine its score, continuing further in the sequence if desired. The << button will take you back step by step within the same sequence.
- 7.33 The **plus (+)** button instructs STRAD to search through all other decision areas within the graph which have at least two links with those within the cluster. From these, it will select the decision area which adds the greatest number of points to the score, and this too will start to flash. This process can be repeated again if desired. Conversely, the **minus (-)** button will subtract these additional decision areas, again one at a time.
- 7.34 Once you feel that the recommendations offered by the selection aid procedure provide a satisfactory starting point in forming a new focus, you can use **Highlight Decision Areas** to identify the decision areas you wish to include, as described in section 7.21, ignoring or adding to the recommendations wherever you wish. **Remember that the selection aid procedure is intended merely as one source of advice in selecting a new focus - so you can override this advice with your own judgement at any time.**

### Using a Focus Zone

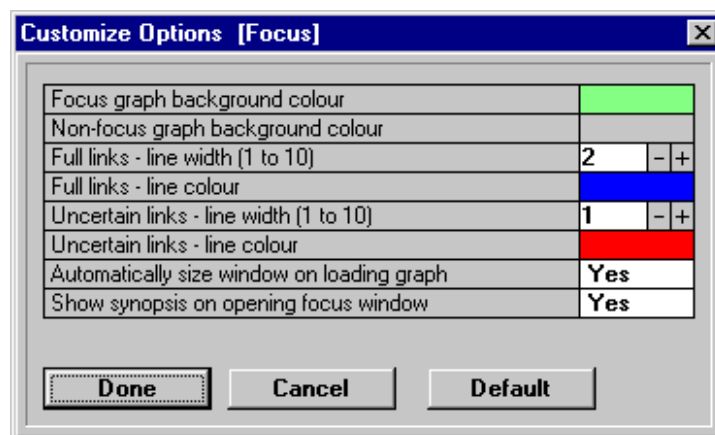
- 7.35 The **Focus Zone (ellipse)** option in the **Focus** menu introduces a resizable elliptical shape within your decision graph, which you can move to any part of the main window area in order to begin to "capture" those decision areas which you wish to include in your new focus. As an alternative, the **Focus Zone (rectangle)** option introduces a resizable rectangular shape which can be used in exactly the same way.
- 7.36 When it first appears, the focus zone shape is bounded by eight "handles" which you can use to alter the size and shape of your ellipse or rectangle. You can also move it to a new position by placing the mouse pointer anywhere inside the focus zone shape and dragging it with your left mouse button. The handles will disappear when you click anywhere outside the boundary of the shape, and will reappear when you click inside it.

### Advice in Selecting a New Focus

- 7.37 To use a focus zone in selecting a new focus, first move it into a position which covers most of the decision areas which you are considering for inclusion in a new graph - resizing it first if necessary.
- 7.38 Where a graph contains many decision areas, a focus zone offers a useful intermediate step in selecting a more compact focus. You can use your mouse to drag outside the focus zone any decision areas which seem less significant than others, and to drag in others to replace them, while keeping their interconnections in view.
- 7.39 You can now use the **Highlight Decision Areas** menu option to highlight one at a time each decision area that you want to treat as a candidate for your new project focus, taking them in the sequence in which you wish them to appear whenever working with this focus. Then you can use **Cutout** to erase all other decision areas from the graph, and **Adopt as focus** to accept the graph as a new project focus, as already discussed in section 7.21.

### Customizing Features of the Focus Window

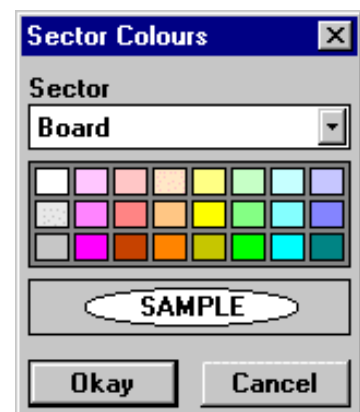
- 7.40 Whenever the Focus window is open, the STRAD **Customize** menu will be found to include two extra menu options labelled **Focus window** and **Sector colours**. Together, these enable you to customize various features of the Focus window to your own requirements.
- 7.41 By selecting the **Focus window** option from the customize menu, you call up a window containing a menu of options for customizing colours and dimensions as shown below.



- 7.42 You may wish to alter the background colour of the decision graph either as a matter of personal preference, or at times when you wish to make a direct print of a graph. The colours and line widths of both full decision links and uncertain decision links can also be altered through this menu.

### Assigning Colours to Sectors of Responsibility

- 7.43 If you select the **Sector colours** menu option from the **Customize** menu, then a small window will appear as shown opposite. When you pull down the list of sectors at the top, you will be able to see a list of all the sectors of responsibility that have so far been defined for your present project. You can then use the small palette provided to select a background colour for this sector. The sample box shows how that colour will appear on your decision graph; press **Okay** to select it if you are satisfied.



- 7.44 You are recommended to make only sparing use of this facility for defining sector colours, and to choose only lighter background colours which will leave the sector labels clearly visible. This is because the focus window already makes quite extensive use of colour coding for other purposes - and there are limits to the amount of useful information that can be conveyed through colour contrasts



## **CHAPTER 8:**

# **The Compatibility Window**

### **In This Chapter:**

**Function of the Compatibility Window**

**Window Layout**

**Entering and Editing Option Bars**

**Scanning the Cells in Sequence**

**Estimating the Number of Decision Schemes**

**Entering Multiple Option Bars**

**Entering Reasons for Incompatibility**

**Studying Option Bar Reasons**

**Removing or Suspending Option Bar Reasons**

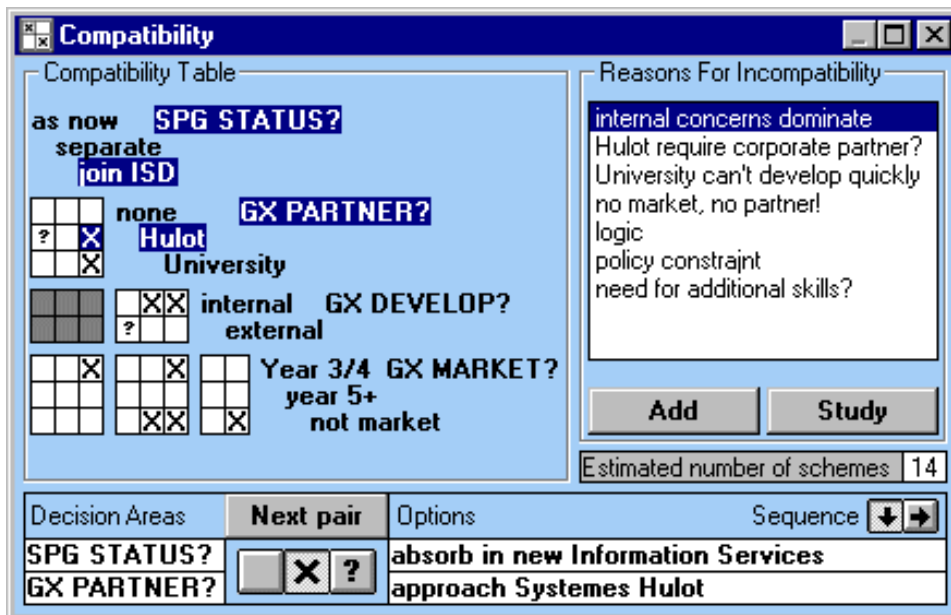
**Customizing Features of the Compatibility Window**

## Function of the Compatibility Window

- 8.1 The purpose of the **Compatibility window** is to enable you to examine all possible combinations of pairs of **options** from different decision areas within your current **project focus**, and to make judgements as to which combinations are to be considered as mutually **incompatible**. When you have done this, you can examine - in the **schemes** window - the full range of possible option combinations from all your decision areas - or **decision schemes** - that is available within your focus after any incompatibilities have been taken into account.

## Window Layout

- 8.2 The layout of the compatibility window is illustrated below. The main part displays a triangular grid in which there is one block corresponding to each pair of decision areas within your current project focus.
- 8.3 Each block consists of a rectangular array of smaller square cells. Notice that there is one column for each option in the first-listed decision area, and one row for each option in the second-listed decision area.



- 8.4 While working in the compatibility window, one pair of decision areas is active at any time; and one decision option at a time is selected in each of these decision areas. The labels of the two selected decision areas, and also of the two currently selected options, are shown highlighted.
- 8.5 The cell corresponding to this particular combination of options - which is also highlighted - contains the symbol **X** if this particular combination is judged to be **incompatible**. This relationship is known as an **option bar**. The symbol **?** indicates that a pair of options is of *doubtful compatibility*; this is known as an **uncertain option bar**. The cell remains blank if a combination is currently assumed to be compatible. If at any time a cell contains the symbol **S**, this indicates that an option bar has been **suspended** through the procedure that will be explained in section 8.28.
- 8.6 For any pair of decision areas which was judged not to be directly interconnected at the time when the current decision graph was adopted in the focus window, the corresponding block in the compatibility window appears shaded. This indicates that you are less likely to find any incompatibilities between options in this particular pair of decision areas; however, if you do enter one or more option bars, the block will turn white and you will find that a new link has been inserted in the focus window.

### Entering and Editing Option Bars

- 8.7 You can highlight any cell anywhere in the array by selecting it with your mouse pointer and clicking once with your left mouse button. The labels of the corresponding pair of decision areas and pair of options will then also be highlighted.
- 8.8 If the highlighted cell is empty, clicking on it once more will insert a cross **X**, indicating an **option bar**; in other words, a judgement that this particular combination of options should be considered to be mutually **incompatible**.
- 8.9 You can **cancel** an option bar by highlighting any cell marked with an X and clicking again. If you press the ? key while a cell is highlighted, irrespective of whether or not a cross is currently displayed, a question mark will appear in the cell. This represents an assumption that there is an **uncertain option bar**.

### Scanning the Cells in Sequence

- 8.10 The panel at the foot of the window offers a non-graphical alternative to this procedure, enabling you to make the same kinds of compatibility judgement while going through all possible option combinations in a methodical sequence.
- 8.11 In this panel, the labels of the two current decision areas again appear, with the current pair of options also shown. This time, however, you will notice that the option labels are replaced with longer descriptions if any such descriptions have been entered.
- 8.12 The compatibility of the current pair of options is indicated by means of a row of three buttons, the first being blank while the others are marked by an **X** and a ? respectively. At any time, one only of the three buttons will initially be selected, depending on the status of the corresponding cell in the main array.
- 8.13 By clicking with your mouse on a different button, you can alter your compatibility assumption for this pair of options, without making any reference to the main array. The status of the corresponding cell in the main array will then be altered accordingly.
- 8.14 The **next pair** button enables you to move on to the next cell button in a fixed sequence. First all the cells in your current block are covered; then, when you have come to the end of the block, the first pair of decision areas in the next block is selected.
- 8.15 The default sequence is one in which the highlight moves **down** to the next cell in your current block before moving **across** to the next column and starting again at the top. When you come to the end of a block, the sequence moves you down to the start of the next block where there is one; otherwise it moves you across to the top of the next column of blocks in the array.
- 8.16 Should you prefer to follow a sequence in which you move across from left to right before you move down, you can click on the second of the two sequence buttons within the window. Selecting the first button will change the sequence back as before.

### Estimating the Number of Decision Schemes

- 8.17 Note that a small box to the right of the window keeps track of the estimated number of **decision schemes** which is available; that is, the number of combinations of options across *all* the decision areas currently in focus which are feasible once all pairwise option bars are taken into account. For the purposes of this calculation, pairs of options of doubtful compatibility are treated as compatible.
- 8.18 Technical note: *This estimate is worked out by a formula which first multiplies together the numbers of options in each of the decision areas to give the total number of schemes that would be available if there were no incompatibilities; then multiplies this total by a series of fractions,*

one for each block, representing the proportion of cells in each block which are available - i.e. not marked by an X symbol.

### Entering Multiple Option Bars

8.19 Occasionally, you may wish to enter assumptions of incompatibility which apply to particular combinations of options chosen from three or more decision areas. Such **multiple option bars** cannot be entered in the Compatibility window; however, they can be registered by means of the **exclusion** procedure in the **Assess** window which is explained in section 10.64.

### Entering Reasons for Incompatibility

8.20 Wherever an option bar or an uncertain option bar has been entered for a particular pair of options, you have an opportunity to record the **reason** underlying that judgement - or indeed to enter up to three reasons if desired. A full list of all such reasons entered so far appears in the right-hand section of the window.

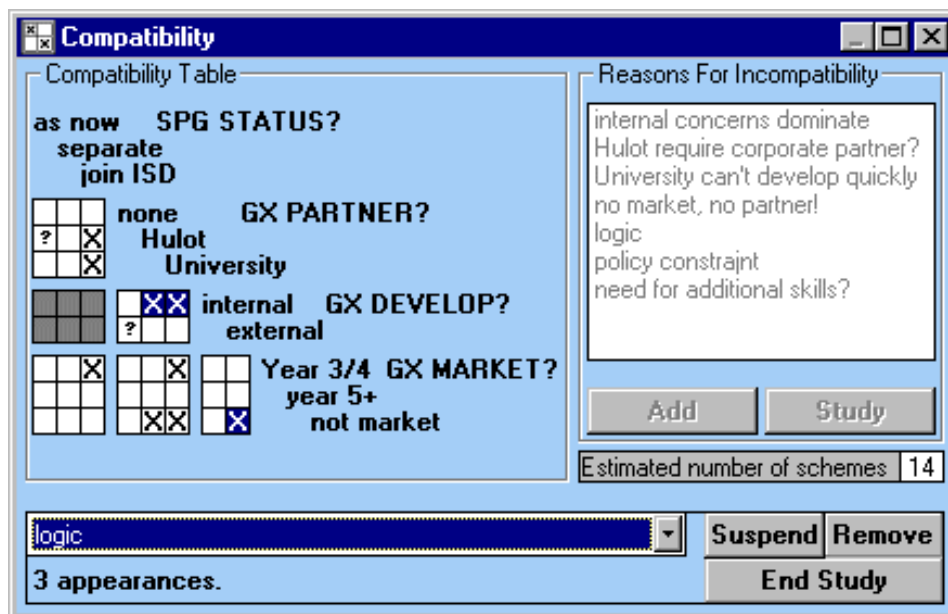
8.21 Every time you highlight a cell which contains either a firm or a doubtful option bar, any reason or reasons you may have entered for making that assumption will be highlighted in the reasons list.

8.22 Whenever you enter a new option bar for any pair of decision areas - whether firm or uncertain - you can scan the existing list of reasons and click on any one or more of these which apply. These will then be highlighted, both now and on any later occasion when you visit the same cell. Clicking on any highlighted reason will cancel its selection.

8.23 If you consider a particular pair of options to be mutually incompatible for a reason which has not already been entered in the list, you have an opportunity to add an additional reason to the list by pressing the **add reason** button below the list of existing reasons. You can then enter your additional reason in the space provided.

### Studying Option Bar Reasons

8.24 Pressing the **Study** button below the list of option bar reasons, enables you to highlight one reason at a time and to examine the number of cells of the triangular array to which it applies, as



8.25 The reason currently selected now appears highlighted in a new field at the foot of the window. All the cells to which this reason applies will now appear highlighted in the main array, and a count of the number of appearances appears at the foot of the window.

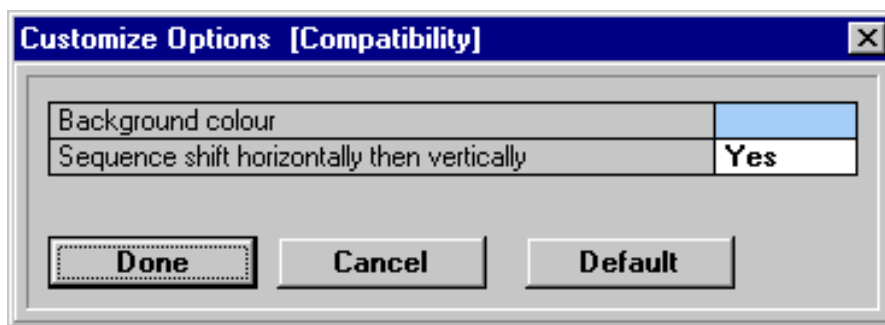
- 8.26 You can now if you wish study the number of appearances of other reasons by selecting them one at a time from the drop down list, which lists the full set of reasons that has so far been entered for this project.

### Removing or Suspending Option Bar Reasons

- 8.27 The reason which is currently being studied can be either **removed** permanently, by clicking on the **remove** button to the right of the window, or temporarily **suspended** by pressing the adjoining **suspend** button.
- 8.28 These operations can be used to open up a wider range of combinations, either on a permanent or a temporary basis, in situations where the estimated number of schemes is currently restricted. If you choose to suspend a reason, the additional option combinations which are now made available will be marked with an **S** instead of an **X** in the main array. If you click on the **suspend** button a second time, the option bars concerned will now be restored.

### Customizing Features of the Compatibility Window

- 8.29 By selecting the **Compatibility** option from the **Customize** menu at any time when the Compatibility window is open, you can call up two menu options as shown below.



- 8.30 Apart from altering the colours in this window to suit your preference, you can alter the sequence in which the cells are scanned from vertical first to horizontal first, or vice versa

## **CHAPTER 9:**

### **The Schemes Window**

#### **In This Chapter:**

**Function of the Schemes Window**

**Window Layout**

**Procedures in the Schemes Window**

**Reconfiguring an Option Tree**

**Advice on Reconfiguring an Option Tree**

**Showing and Hiding Decision Schemes**

**Advice on Reducing the Size of an Option Tree**

**Cancelling Excluded Combinations**

**Counting the Incidence of Options**

**Locking Options within Decision Areas**

**Unlocking Options within Decision Areas**

**Advice on Locking Options**

**Customizing Features for the Schemes Window**

## Function of the Schemes Window

9.1 The purpose of the **Schemes window** is to enable you to display the full range of strategies - or **decision schemes** - which can be generated by bringing together different combinations of **options** from the full set of **decision areas** currently **in focus**. This means checking all possible pairs of options from these decision areas for **compatibility**, taking account of any **option bars** so far introduced through the **compatibility window**.

## Window Layout

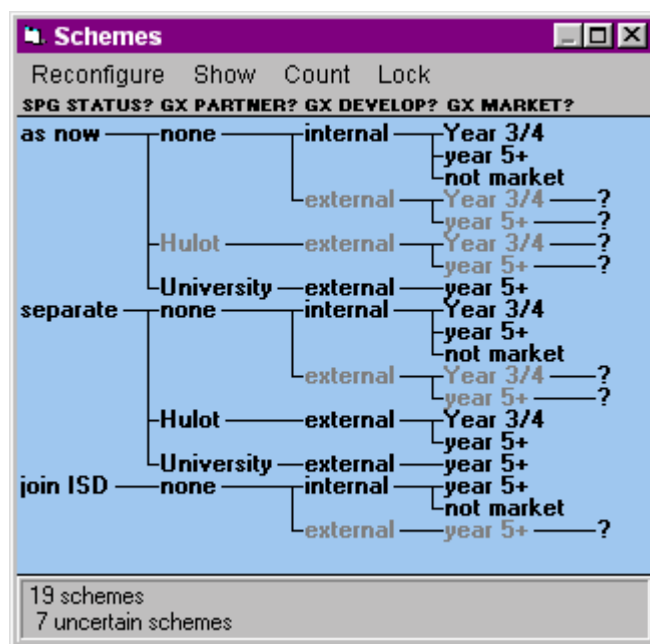
9.2 Unless you have opted for an alternative **List** format - as explained in section 9.26 - the Schemes window displays the range of decision schemes available in the form of a branching array - or **option tree** - as shown below.

9.3 This sets out all the paths that are currently available, with a list of all the decision areas in focus appearing from left to right across the top. They will appear in the sequence in which they are currently listed in the overview window - unless you have chosen to alter that sequence through the **reconfigure menu**, as will be described in sections 9.09 to 9.11.

9.4 If there are too many schemes to be displayed in the window at the same time, a **scroll bar** will enable you to scroll up and down the list. You can also use standard Windows procedures to enlarge the window if you wish, so as to display more of the option tree.

9.5 A count of the total number of schemes listed appears at the foot of the window, together with a count of any of these schemes which are classified as either:

- **uncertain**, because they contain uncertain options or option bars;
- **excluded**, as a result of judgements made in shortlisting or pair comparison, as explained in chapters 10 and 11;
- **released** on a temporary basis by the **suspension** of a particular option bar reason, as described in section 8.27.



9.6 In the option tree, any paths which contain an uncertain option bar appear in a *grey* tone.

9.7 Note also that, when you hold down your left mouse button against any decision scheme on the option tree display, a small panel will appear giving fuller information on that scheme.

## Procedures in the Schemes Window

9.8 The **Reconfigure**, **Show**, **Count** and **Lock** menus in the **schemes** window serve to give access to procedures which enable you:

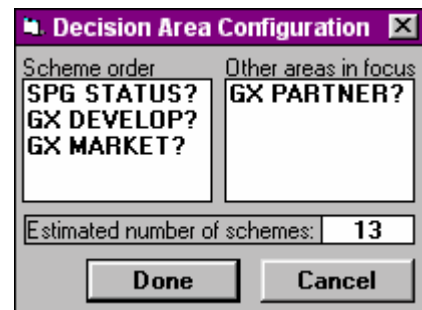
- to alter the **sequence and number** of the decision areas included in the option tree;

- to **show or hide** uncertain and excluded schemes, or to alter the display to a straight listing;
- to **count** the frequency of appearance of each option from each of the decision areas;
- or to select and **lock** as a basis for decision any particular option in one or more of the earlier decision areas in the sequence, moving from left to right to select the next decision area in the sequence if desired.

### Reconfiguring an Option Tree

9.9 The **Reconfigure** menu in the schemes window enables you to alter the sequence in which your decision areas appear in the option tree. The first menu option, **Rearrange**, will rearrange the decision areas in any sequence which you yourself specify, omitting one or more of the decision areas if you wish. The remaining menu options instruct STRAD to reconfigure the option tree in decreasing order of **importance**, **urgency** or any third attribute that may have been defined as explained in section 5.28.

9.10 When you select the **Rearrange** option, a small **Decision Area Configuration** window will appear. This contains two panels, as shown; the first displays the existing **Scheme order**, while the second, headed **Other areas in focus**, shows any decision areas within your current focus which you have excluded from the current scheme configuration.



9.11 Within the **Scheme order** panel, you can use your left mouse button to drag any one decision area at a time into a new position either further up or further down the list. When you click on **Done**, the option tree will then be redrawn to display the new sequence.

9.12 You can also drag one or more of the decision areas across from the left-hand **Scheme order** panel into the right hand panel headed **Other areas in focus**. If you then select **Done**, the option tree will be redrawn with these decision areas excluded.

9.13 Note that the estimated current number of schemes is displayed within the window, so that you can quickly see the likely effect of excluding particular decision areas in order to reduce the size of the option tree.

### Advice on Reconfiguring an Option Tree

9.14 Unless you have removed or added any decision areas, the total number of schemes in the redrawn option tree will remain the same whatever the sequence of decision areas. However, different **structural features** will be displayed; for example, if a different decision area has been moved into the leading position, and if there is one option in this decision area which leaves a very limited range of schemes available overall, then this structural feature will become more clearly visible.

9.15 You are advised to exclude one or more of the decision areas which are less significant to you in any situation where there are too many decision schemes to enable you to display the entire option tree without scrolling.

9.16 The option in the **Reconfigure** menu which enables you to rearrange the decision areas in descending order of **Importance** can be useful as a preliminary step towards the exclusion of less important decision areas, as a means of reducing the size of the option tree.

9.17 The option of rearranging the decision areas in descending order of **Urgency** can be useful at a stage in your work when you are ready to select options in one or more of the most urgent



decision areas for inclusion in the **Now** section of a progress package, as explained in section 13.4. You can then consider what selection to make by means of the **Lock** menu,

### Showing and Hiding Decision Schemes

9.18 The **Show** menu of the Schemes window offers the following set of options - some of which may be disabled if not currently relevant.

<b>Uncertain Schemes</b>	<b>Released Schemes</b>	<b>Excluded Schemes</b>
<b>Cancel Exclusions</b>		<b>As List</b>

9.19 A tick (check) sign against any of the first three menu options indicates that any schemes of that type are currently **shown**. In that case, the schemes concerned are marked on the option tree by a **?** mark for uncertain schemes; an **R** for released schemes; or an **X** for excluded schemes.

9.20 If you wish to **hide** schemes of any of these types, a click on the relevant menu option will remove these schemes from the option tree; a further click will reverse this process. If there are no schemes of a particular type, the relevant menu option is disabled.

9.21 The first menu option - **Uncertain Schemes** - enables you either to hide or to show any scheme the feasibility of which is in doubt, whether because it includes an uncertain option in one or more of the decision areas, or because it contains at least one pair of options between which there is an uncertain option bar.

9.22 The second menu option - **Released Schemes** - is available only when at least one option bar reason has been temporarily **suspended**, as described in sections 8.27 and 8.28. The schemes which are thereby **released** for inclusion in the option tree will then appear on the tree marked with a letter **R**.

9.23 In the same way, the third menu option - **Excluded Schemes** - enables you to hide or show any schemes which include combinations of options that have been **excluded** at any stage of your work; these will be marked on the option tree by an **X**. Particular combinations of options may be excluded either in the **Scheme assessment window** as described in section 10.64, or in the **Balance window** as described in section 11.34.

### Advice on Reducing the Size of an Option Tree

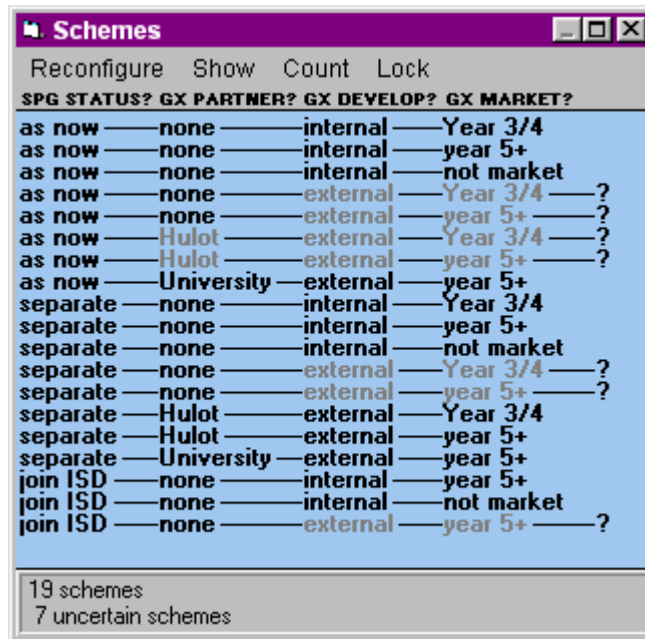
9.24 If there are too many decision schemes for the whole option tree to appear in the window without scrolling, you are advised first to use the **Show** menu to hide any uncertain schemes - and any **excluded schemes** if these yet exist. Then, if you wish to reduce the option tree further, you can either reconfigure so as to exclude one or more of the decision areas, as explained in section 9.12, or else you can return to the option compatibility window to consider whether you might introduce any additional option bars.

### Cancelling Excluded Combinations

9.25 You can use the **Cancel Exclusions** option in the **Show** menu to make all excluded combinations of options available again at any time, whatever your original grounds for excluding them. You can then start excluding schemes on different grounds if you wish.

### Displaying an Option Tree in List Form

9.26 Sometimes, it may be more convenient to display the set of feasible schemes in the form of a straight list rather than an option tree; for example, in order to produce a printout for reporting purposes. The **As List** option in the Show menu enables this to be done, with the effect illustrated below.



### Counting the Incidence of Options

9.27 The **Count** menu enables you to see how many times each **decision option** appears in the option tree that is now displayed. Clicking on **Count** calls up the list of decision areas currently in the tree, and enables you to select one of these at a time. When you have made your selection, a small box will appear showing how many times each option in that decision area appears.

### Locking Options within Decision Areas

- 9.28 If no options have yet been locked in any of the decision areas in your option tree, the **lock** menu will pull down a list of all the options available in the **first** decision area in the tree, reading from the left. You can now use your left mouse button to select any one of these options as a proposed basis for decision; the tree will then be redrawn to include only those paths which follow from that option.
- 9.29 The option which you have selected then becomes **locked**, implying that a choice has been made in that decision area, and the other options are now no longer open. The option you have locked will now appear with an exclamation mark (!) against it; the decision area label will also appear with an ! instead of a ?, indicating that the choice within it is no longer open.
- 9.30 You can now either accept the reduced option tree as a basis for the next stage of your work, or you can select the **lock** menu again; this will now pull down a list of all options in the **second** decision area reading from the left. If you again select one of these options as a basis for decision, the option tree will again be redrawn displaying only those paths which follow from it.
- 9.31 If you select the **lock** menu when some decision areas in the sequence are already locked, the procedure will begin with the first decision area which is still open. So long as any further open decision areas remain in the option tree, you can take further steps from left to right, locking your preferred options at each stage.

### Unlocking Options within Decision Areas

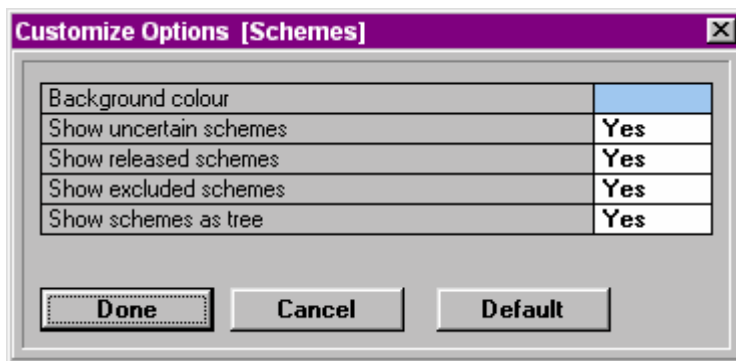
9.32 After you have locked an option in the first decision area, another menu option appears inviting you to **unlock** the option you have locked in the last decision area. In this way, you can work back up the option tree, expanding the range of choice as you go.

### Advice on Locking Options

- 9.33 Unless some decision areas are particularly urgent, and there is clear evidence that particular options in some of these decision areas offer a much wider range of paths than others, you are advised not to begin locking options until you have made some use of the procedures available through the **Assess window** to assess the differences between options and schemes in terms of some of your more significant comparison areas.
- 9.34 This is because the **scheme assessment** and **combined scheme assessment** procedures to be described in Chapter 10 offer you the opportunity to **exclude** from consideration those paths which you judge to score less well in terms of your more important comparison areas.
- 9.35 Any such excluded combinations will then be taken into account in the set of excluded schemes - marked with an **X** - which is displayed next time you return to the Schemes window. This means that you can take account of the **desirability** as well as the **feasibility** of the paths that will remain open once you have begun to lock particular options in the earlier branches of the tree.

### Customizing Features for the Schemes Window

- 9.36 By selecting the **Schemes** option from the **Customize menu** while the **Schemes window** is open, you can choose from among the options listed below.



- 9.37 The principal alteration you can make through this menu is a change in the background colour of the Schemes window. Note that the various **Show** options are the same as those available in the **Show** menu of the **Scheme** window.

## **CHAPTER 10:**

# **The Assess Window**

### **In This Chapter:**

**Function of the Assess Window**

**Window Layout**

**Procedure for Impact Assessment**

**Advice on Impact Assessment**

**Aggregating Impacts across Comparison Areas**

**Adjusting the Weightings of Comparison Areas**

**Selecting Cells for Option Assessment**

**Selecting Multiple Areas for Assessment**

**Advice on Use of the Assessment Procedures**

**The Function of the Option Assessment Window**

**Window Layout**

**Entering Option Assessments**

**Indicating Uncertainty in Option Assessment**

**Advice on Assessing Option Differences**

**Rescaling Option Differences**

**Calibrating Scales of Assessment**

**Sorting Options into Preference Order**

**The Scheme Assessment Window**

**Procedures in the Scheme Assessment Window**

**Sorting and Excluding Decision Schemes**

**The Combined Option Assessment Window**

**The Combined Scheme Assessment Window**

**Pair Comparison through the Balance Window**

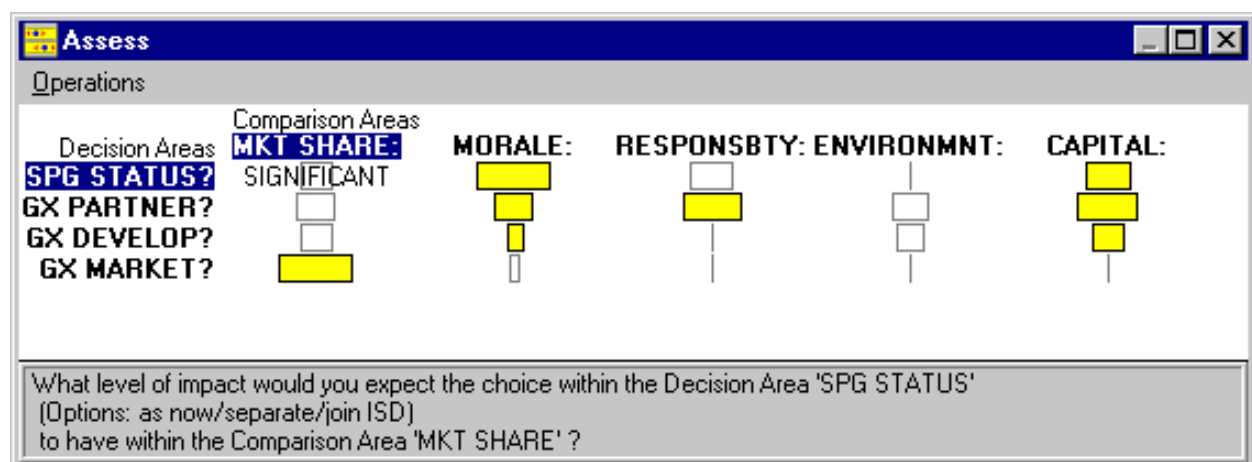
**Customizing Features of the Assess Window**

## Function of the Assess Window

- 10.1 The main **Assess window** has three main functions. First, it enables you to enter an initial set of judgements as to the level of **impact** which you expect the choice in each **decision area** within your current focus to have within each **comparison area**, relative to other decision areas and other comparison areas,. You are encouraged to make this initial judgement in an intuitive way, as an aid to selecting your priorities when you come to make detailed assessments of the differences between options within decision areas.
- 10.2 Secondly, the main assess window gives you access to a more specific **Option assessment window**, in which you can assess the differences between options within any selected decision area, taking one comparison area at a time. You need to do this only for those combinations of decision areas and comparison areas where you have judged the level of impact to be relatively significant; and the main assess window offers a point of reference in reviewing your progress in this direction.
- 10.3 Thirdly, the main assess window enables you to select combinations of two or more decision areas, or of two or more comparison areas, with which to enter the further procedures of **scheme assessment, combined option assessment** or **combined scheme assessment**. These procedures, all of which involve opening further assessment windows of a similar format, enable you to combine any option assessments which you have already made, as described in sections 10.52 to 10.74.
- 10.4 The main assess window therefore offers a channel of initial access to other supporting windows in which more specific assessments of differences between options and schemes can be made.

## Window Layout

- 10.5 The layout of the main **Assess window** is illustrated opposite. In its normal format, as illustrated here, the main area within the window consists of a rectangular array in which there is one row for each decision area that is currently in focus, and one column for each comparison area which has been *orientated*, in the sense explained in section 6.31.
- 10.6 The labels of the comparison areas appear across the top of the array, with the labels of the decision areas down the left side. You can call up more details of any decision area or comparison area by double-clicking with your left mouse button in the normal way.
- 10.7 Note that it is possible to reverse the rows and columns by use of the Customize menu, as explained in section 10.80. This is most likely to be useful when there are many comparison areas and there are relatively few decision areas in your current focus.



### Procedure for Impact Assessment

- 10.8 When you first start the impact assessment procedure for a project, each cell in the grid will be of zero width. This indicates an initial assumption that the impact of the choice in this particular decision area within this particular comparison area is **negligible**; an assumption which you can alter as will now be described.
- 10.9 Any cell can be **selected** by pointing to it and clicking with the left mouse button, in which case an adjective appears superimposed - in the above example, **significant**. Also, the decision area and comparison area labels for the currently selected cell now appear **highlighted**.
- 10.10 Wherever a white rectangle appears in a cell, this means that a judgement has been made that the impact level for that decision area in that comparison area is judged to be *more than* negligible. Such a judgement can be made at any time by placing your mouse pointer within the general area of that cell, then clicking with your **right mouse button** at a position at a greater or lesser distance from the centre of the cell. A rectangle of the width you have specified will now appear.
- 10.11 Depending on how wide you have made your rectangle, one of the four words **marginal**, **significant**, **considerable** or **extreme** will appear superimposed on it. The meaning you attach to these qualitative judgements will depend on the particular planning context in which you are working. Note that the same qualitative scale is also applied to the differences between alternatives in the balance window, as will be discussed in Chapter 11.
- 10.12 Note however that you can no longer adjust the width of a cell which is filled in colour. The coloured fill indicates that the differences between options have already been assessed within that cell, as will be explained in section 10.32.

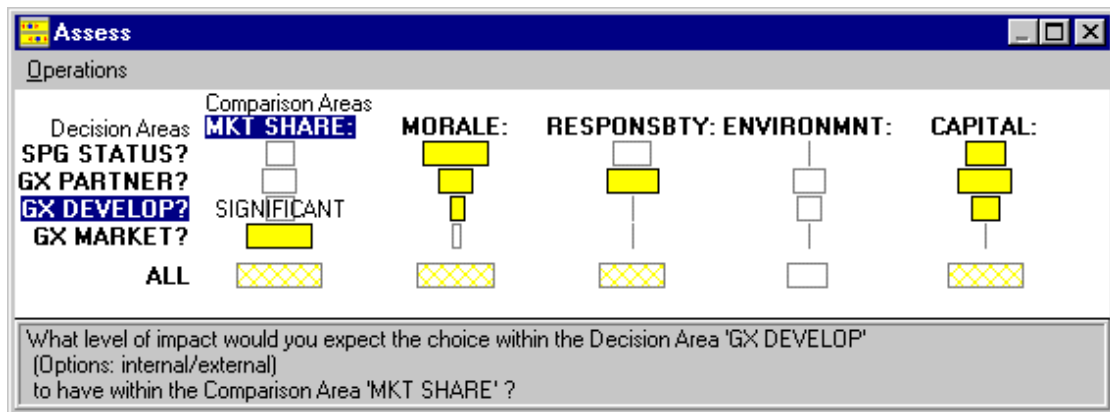
### Advice on Impact Assessment

- 10.13 In making your initial impact assessments, notice that there is a fixed limit beyond which you cannot expand the width of a rectangle. In order to keep a sense of proportion, you are advised to use the *extreme* level only in exceptional circumstances, to represent a scale of impact which overshadows all the others shown in the array. You are also advised to use the *considerable* level sparingly; rarely more than once and certainly not more than twice in any row or column.
- 10.14 Notice that, if you make too many *extreme* or *considerable* assessments in any row or any column, then the label of that row or column will begin to flash in a warning red colour. This warning is triggered whenever the aggregate impact level of a column or row exceeds the outer limit of the *extreme* category.
- 10.15 Technical note; Working on *reasonable working assumptions based on statistical theory*, STRAD estimates the aggregate impact level by calculating the sum of the **squares** of the individual impact levels, then taking the **square root** of the result.

### Aggregating Impacts across Comparison Areas

- 10.16 If you select the **Weights** option from the **Operations** menu, an additional row will appear at the foot of the main array, as shown opposite. If you have customized your display to show comparison areas as columns rather than rows, then you will instead see an additional column to the right.
- 10.17 The additional row indicates the aggregate impact in each comparison area of *all* the decision areas within your focus taken together, using the aggregation formula already described in section 10.15. If all cells contributing to the estimate are filled in colour, then the aggregate cell will also be filled; if they are all unfilled, so too will be the aggregate cell. If there is a mixture of filled and unfilled cells, then the aggregate cell will appear *hatched*.

- 10.18 Where the aggregate impact of all decision areas within a particular comparison area exceeds the permitted range - even though you will have received warnings of this as described in section 10.14 - then this will be shown by a wide rectangle coloured in **red**.



### Adjusting the Weightings of Comparison Areas

- 10.19 The aggregate row in the assess window - or the aggregate column if you have used the customize menu to reverse the rows and columns, as described in section 10.80 - enables you to review in a critical spirit the relative **value weightings** you have attached to your comparison areas, as a result of the intuitive impact assessments you have made for individual decision areas. Specifically, such a review may indicate that the aggregate impact of all your decision areas in some particular comparison area seems to be either higher or lower than you would have expected, in view of your sense of the value weighting that ought to be attached to that comparison area - relative to the others - within the organizational or political context in which you are working.
- 10.20 Should you come to such a view, you can use your **right mouse button** to click on a different position in the cell corresponding to the aggregate impact for that comparison area. This will cause a corresponding increase or decrease in the width of the rectangle; it will also cause a proportional increase or decrease in the width of the separate rectangle for each of the decision areas in relation to that particular comparison area.
- 10.21 You are not obliged to make this kind of adjustment in every case where the aggregate impact level for a comparison area exceeds the limit permitted within the window, as indicated by a red colour in that cell. However, it is usually advisable for you to do so, because the implication is that you have been too generous in your use of the *considerable* and *extreme* categories in some at least of the cells of the grid.
- 10.22 In this situation, you can make adjustments in either of two ways:
- if you think you have exaggerated the overall value weighting for the particular comparison area or areas affected, you can make an adjustment to the weighting as indicated in section 10.20.
  - if you think you have exaggerated the impact of a particular cell or cells which remains unfilled in the main grid, you can make an adjustment of width for this cell only.
- Note that there is also a menu option in the **Assess** window that enables you to **expunge** any information on the assessment of a selected decision area within a selected comparison area.

### Selecting Cells for Option Assessment

- 10.23 By double-clicking on any cell in the main **Assess** window, you can call up an **option assessment window** for that specific cell. This enables you to assess the differences between

the individual options in that particular decision area in relation to that particular comparison area.

- 10.24 In going through this procedure, you are recommended to start with those cells in the array where you have judged the impact level to be greatest. You can then gradually progress to those cells where the impact level is less, ignoring any cells where you have judged the impact to be either *marginal* or *negligible*.

### Selecting Multiple Areas for Assessment

- 10.25 In the main **Assess** window, you can also select either more than one decision area at a time, or more than one comparison area at a time - or both. This is done by clicking with your left mouse button on all those decision area labels and all those comparison area labels which you wish to include. The selected labels will then appear highlighted. You can now proceed to the **operations menu** to start making joint assessments under one or other of the multiple assessment procedures described in later sections of this chapter. These procedures are as follows:

- **scheme assessment** for multiple decision areas with a single comparison area;
- **combined option assessment** for a single decision area with multiple comparison areas;
- **combined scheme assessment** for multiple decision areas with multiple comparison areas.

- 10.26 In the **Operations menu** you will also find a **Select all** option. Clicking on this option will highlight all decision areas and all comparison areas within the **Assess** window. This enables you to proceed immediately to the combined scheme assessment procedure in order to combine all the option assessments so far made,

- 10.27 Once you have highlighted one or more decision areas and one or more comparison areas, the **Assessment** option in the **Operations** menu initiates a procedure which will aggregate, across all the selected decision areas and all the selected comparison areas, whatever assessments of option differences you have so far made - as indicated by those cells of the impact assessment window which appear filled in colour.

- 10.28 If you wish to include the full set of decision areas and comparison areas shown in the Assess window, the quickest way to proceed is to click on the **Select all** menu option before selecting the **Assessment** option.

### Advice on Use of the Assessment Procedures

- 10.29 In most situations, you are recommended not to begin making any multiple assessments until you have used the more basic **Option assessment** window to assess option differences within all those cells of the table which you have judged to be of some level of significance. You will recognise when you have reached this stage because all but the narrowest rectangles in the grid will appear filled in yellow.

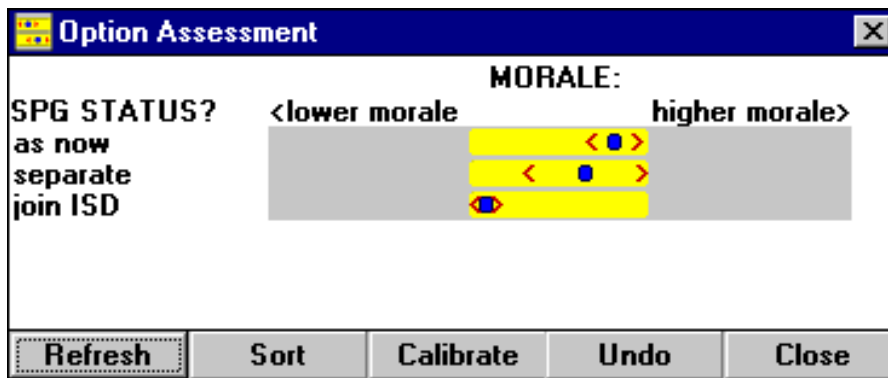
### The Function of the Option Assessment Window

- 10.30 The **Option assessment window**, called by double-clicking with the left mouse button on any selected cell in the main **assess** window, enables you to enter or edit your assessments of the differences between the options within one selected decision area, from the perspective of one selected comparison area. It is worth remembering at this point that a comparison area will only appear in the Assess window if it has first been **orientated** by entering direction labels and then expressing a preference between them in the comparison area detail form.



## Window Layout

- 10.31 The layout of the **Option assessment window** is illustrated opposite. Notice that the two direction labels you have selected for the comparison area now appear to the left and right of the window respectively. If you have specified units of measurement for this comparison area, these will also appear at the foot.
- 10.32 Within the window, you will see one row for each of the options within the decision area; each row has a coloured strip of the same width, set in the middle of a wider block of fixed width. The width of the coloured strip will depend on the judgement you made in the main assess window as to the level of impact of this decision area within this comparison area.
- 10.33 If you judged the impact to be *extreme*, then the yellow strip will cover most of the width of the block; if you judged it to be *negligible* or *marginal*, it will cover only a small band in the centre. In setting the initial width of the yellow bands. STRAD automatically scales up the width of each cell in the impact assessment grid by a fixed multiplier of 3.



## Entering Option Assessments

- 10.34 If this is the first time that you are making assessments of option differences in this particular cell - in other words, if the cell was not filled in colour when you selected it - then the blue **spot marker** for each of the options will initially appear in the same central position within the coloured band. If, on the row corresponding to any particular option, you now click with your *left mouse button* on any position within the coloured band, then the spot marker will jump to that position, representing your judgement of how that option differs from the others. In this way, you can adjust the position of all options within the central band of the window.

## Indicating Uncertainty in Option Assessment

- 10.35 In the option assessment window, you can also make judgements as to the level of **uncertainty** which you attach to your judgement of each option position. This is done by selecting one or other of the two red **range marker** arrows which appear on either side of the blue spot marker, and dragging it away from the spot marker position with your *left mouse button*.
- 10.36 You will notice that the other red range marker will move outwards by the same amount. This expresses your judgement that there is an increased **range of uncertainty** attaching to the position of this option in this comparison area.. In order to keep the process simple, this range is always treated as symmetrical.

## Advice on Assessing Option Differences

- 10.37 When you first assess a set of option differences, you are recommended to consider each of the two direction indicators in turn, asking which of the options you would place furthest out in that

direction. Then you can click with your left mouse button to place the spot marker for that option at that extreme of the coloured range. Once you have identified a pair of extreme options in that way, you can adjust the positions of any further options there may be within that decision area, placing them in appropriate positions between (or at) the extremes.

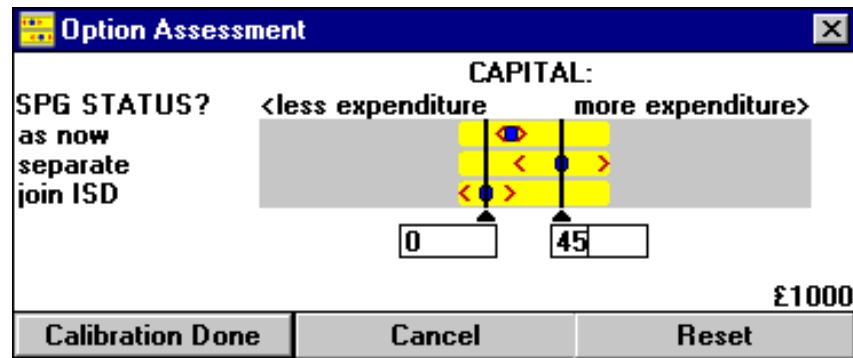
- 10.38 You can make any number of adjustments to the positions of spot markers or range markers while working in the option assessment window. If you wish, you can position option markers or range markers in positions *outside* the coloured strip; you are then in effect making a judgement that the difference between options in this decision area is wider than you initially assumed when working in the impact assessment window. Conversely, if your option spot and range markers do not cover the full range of the coloured strip, you are in effect making a judgement that the option differences are less significant than you earlier supposed.
- 10.39 When you next leave the option assessment window - or before that time if you click on the *refresh* button - STRAD will reset the width of the coloured strip for each option, so that it now corresponds to the maximum difference between option markers; STRAD will also re-centre the strip within the block. The width of the corresponding coloured cell in the main Assess window will also be altered in proportion to the changes you have made.

### Rescaling Option Differences

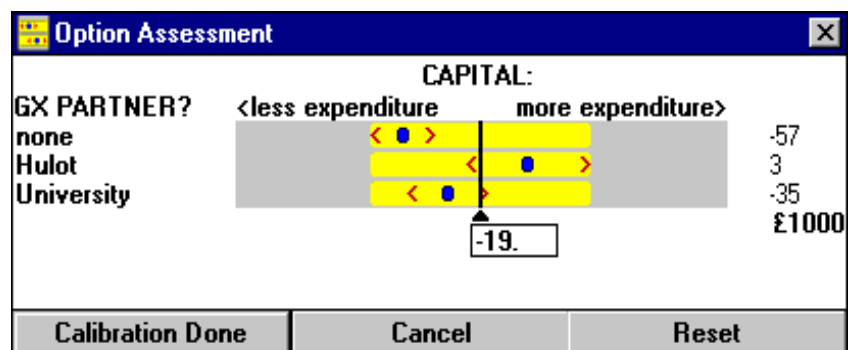
- 10.40 Notice that you can shift the positions of any of your spot and range markers beyond the limits of the outer block if you wish, within the limits permitted by the window design. Should the difference between the extreme option positions now exceed the width of the block, then a fixed **rescaling factor** of 80% will be applied when you click on **refresh**, bringing all options once more within the limits of the block. The same rescaling factor will be applied a second time should you make further adjustments which again exceed the width of the block.
- 10.41 STRAD will automatically apply this 80% rescaling factor not only to the options in this one decision area in relation to this one comparison area, but also to all other stored assessment data relating to every decision area and every comparison area. In this way, the overall balance of the stored assessment information is preserved. This means that you need not feel totally constrained by the dimensions of the window in entering your judgements about option differences.

### Calibrating Scales of Assessment

- 10.42 The **calibrate button** at the foot of the option assessment window enables you to *calibrate* your option assessments using a numerical scale. This applies in particular to comparison areas where particular **units of measurement** have been specified in the comparison area detail form. You can also calibrate if you wish in cases where no units of measurement have been defined; however, your scale will then be a more arbitrary one. There is no real value in defining such arbitrary scales when using STRAD, as STRAD uses its own working scale which is defined in terms of your screen dimensions, and balanced between comparison areas through the judgements you made in the main assess window.
- 10.43 When you click on the **calibrate button**, then either one vertical cursor line or two will appear, as shown below. If your present decision area is the first one which you are using in order to calibrate this particular comparison area, then two cursor lines will appear; one against the position of the option furthest to the left, and the other against the position of the option furthest to the right.



- 10.44 In the box below the *left cursor line*, you are now invited to type the number of units corresponding to the position of the first option. You can then use the *tab* key to move on to the box below the second cursor line, where you can type in the number of units corresponding to the position of the second option.
- 10.45 If you now click on the **calibration done** button, the numbers corresponding to these two options - and also any other options there may be in the current decision area - will appear to the right side of the display. Note that if you wish to select any other pair of points within the yellow range with which to calibrate your scale, you may do so by moving either or both of the pointers provided.
- 10.46 If you calibrate using integers only, notice that all figures will appear as integers on the screen. If you require more accurate calibration for any comparison area, then you should type in at least one of your initial calibrations to one or more places of decimals. All future calibrations for this comparison area will then appear to the same number of decimal places.
- 10.47 If you have already calibrated the scale for this comparison area by going through this procedure with some other decision area, then the options within your present decision area will already appear calibrated.
- 10.48 In this situation, STRAD has initially taken the mid-point of the yellow range as zero, then applied the scaling of screen distances as already defined through the earlier decision area. You can however alter the datum point from which option positions are calculated if you wish, without altering the *relative* calibrations of the options. To do this, select the **calibrate button**; this time, only one cursor line and number box will appear, as shown opposite.
- 10.49 You can now move the calibration pointer to any position you wish, and enter a number in the box. This will define a new datum point for this decision area only, without altering the option differences.
- 10.50 By clicking on the **reset** button, you can at any time cancel all your existing calibration parameters for your current comparison area, and start again.



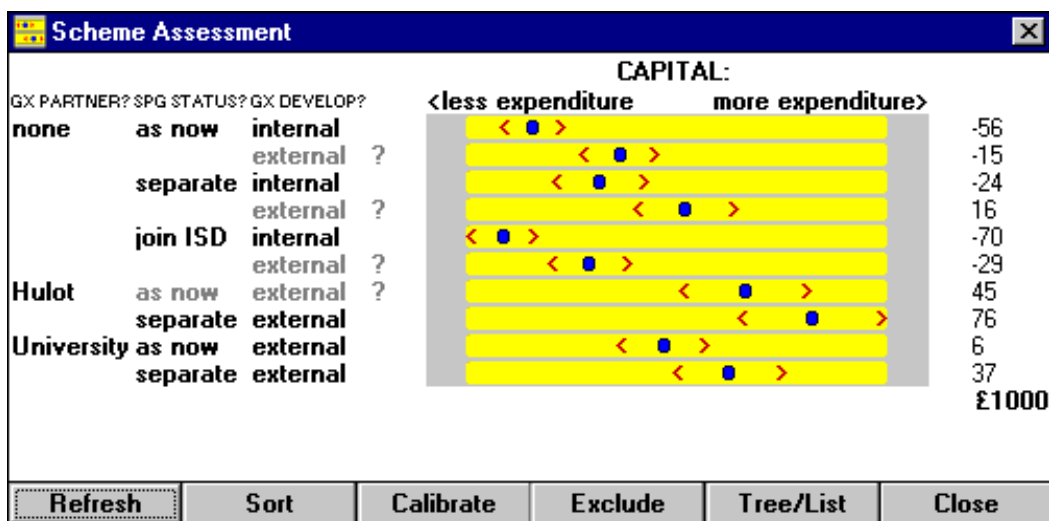
### Sorting Options into Preference Order

- 10.51 The **sort** button will automatically sort the options in your present decision area into descending order of preference from the perspective of this particular comparison area, taking note of which direction you have nominated as **preferred**. This change is merely temporary, and the

sequence in which the options are listed in other windows is not affected. Note that this sorting procedure is generally less useful for option assessment than for the scheme assessment procedure now to be described.

### The Scheme Assessment Window

- 10.52 The **Scheme Assessment Window** can be called from the main assess window by selecting more than one decision area but only one comparison area, as described in section 10.25. This window enables you to inspect the differences between feasible **decision schemes** in terms of whichever comparison area is currently selected. It also enables you to make adjustments in the differences between schemes, in any circumstances where you have reason to believe that particular consequences may arise within this comparison area through the way in which particular options from different decision areas are combined.
- 10.53 The scheme assessment window is similar to the option assessment window in its general layout, and in the set of operations which can be selected through the buttons at the foot of the window.
- 10.54 The general layout of the **scheme assessment window** is illustrated below. To the left of the window, you will notice that, in place of the straight list of options in the option assessment window, there appears a full list of the decision schemes available by combining options within the selected decision areas. This list will be displayed in the form of a tree if the relevant menu option is currently selected.
- 10.55 In listing the schemes available, STRAD has automatically taken into account all **option bars** - or assumptions of incompatibility between particular pairs of options - which were entered in the compatibility window.



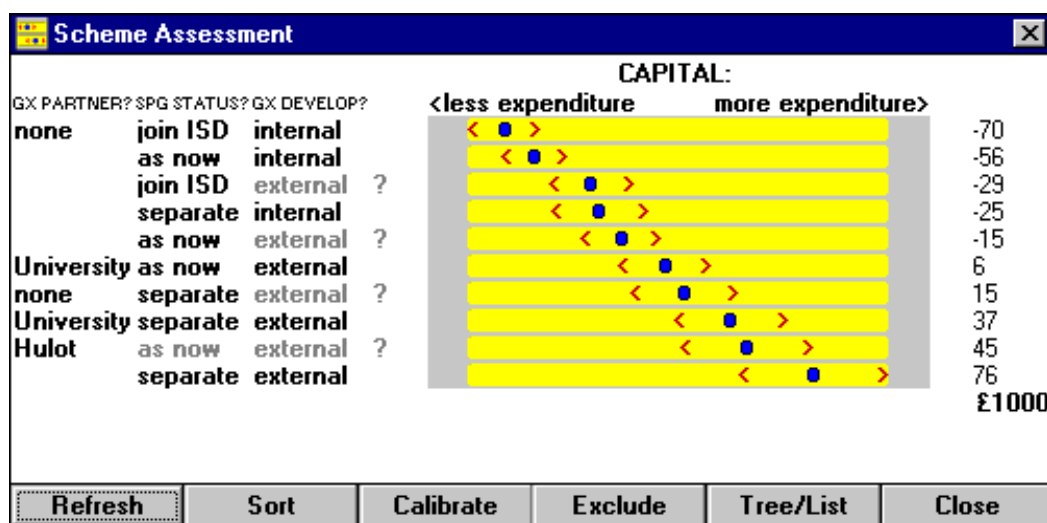
- 10.56 Any schemes which include a pair of options of **uncertain compatibility** will be hidden if the **hide** option is currently selected in the **Show** menu of the Scheme window, as explained in section 9.21; otherwise, they will be included but indicated by a **?**.
- 10.57 Any schemes which are currently **released** because of the temporary suspension of some option bar reason, as explained in section 9.22, are indicated by the letter **R**, and those which are currently **excluded**, as explained in section 9.23, are marked by a letter **X**. Note however that these schemes will not appear at all unless the relevant **Show** option in the schemes window is set.

### Procedures in the Scheme Assessment Window

- 10.58 In generating the display in this window, STRAD will combine any **option assessment** information which has already been entered for this comparison area and for any of the selected decision areas – the relevant cells being identifiable by their coloured fill. On pressing the **refresh** button, the width of the coloured range will be adjusted to correspond to the width between the two outermost scheme positions.
- 10.59 If some of the scheme differences calculated in this way are too wide to fit the space available within the screen, an automatic 80% scale reduction will be applied one or more times, as described in section 10.40.
- 10.60 *Technical note: In order to calculate the blue spot marker position for each decision scheme, the spot marker positions of the options which comprise that scheme are combined by simple addition. The width of each range of uncertainty, as defined by the pair of red range markers, is calculated by taking the square of the corresponding range for each option; then adding together across all the options in the scheme; then taking the square root. This reflects a working assumption that the uncertainties which surround each of the option positions are statistically independent. The width of the coloured range in the scheme assessment window is calculated using a similar sum of squares formula*
- 10.61 You can now make adjustments in the blue spot marker position or the range marker positions for any scheme if you have reason to believe that its assessment will differ from that estimated by simple combination of the option assessments. Note that such an adjustment will not alter any of the option assessments on which the scheme assessment is based. Nor will it be stored once you leave this window; it is strictly a temporary adjustment, to help you in assessing differences between schemes at this stage.
- 10.62 If you have already **calibrated** the assessments of options within decision areas for this comparison area, notice that corresponding numerical assessments of your decision schemes will show in a column to the right of the window, in terms of your defined units of measurement. You can use the **calibrate** button to recalibrate the scale in this window if you wish, or to calibrate it for the first time if this has not already been done at the option assessment stage.

### Sorting and Excluding Decision Schemes

- 10.63 The **sort** button enables you to sort all the decision schemes in the scheme assessment window into rank order – with those that are most preferred appearing towards the top, as illustrated below.



- 10.64 You can now select any one or more schemes for **exclusion** by clicking on the **exclude** button at the foot of the window, then clicking with your left mouse button against its description in the appropriate row; this scheme will then be highlighted. The same operation repeated will cancel your selection. When you have finished, click on the **exclusion done** button; the schemes you have excluded will then be marked by a letter **X**.

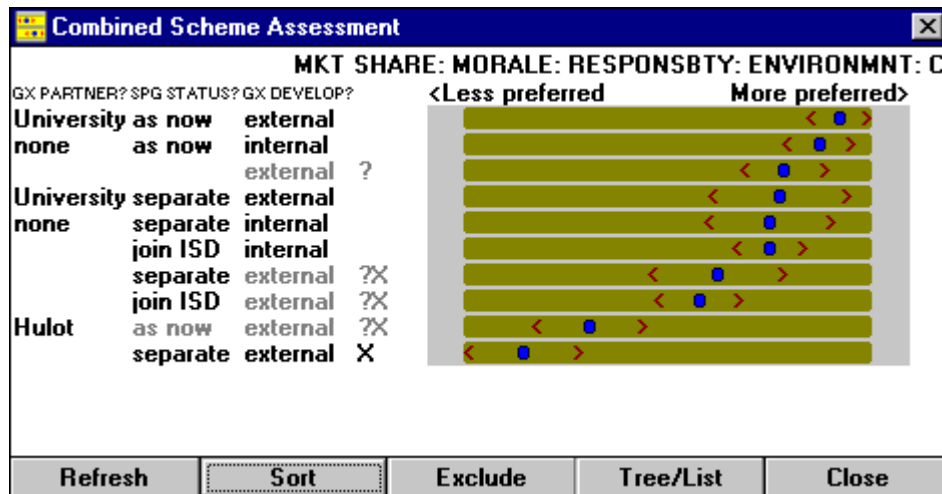
- 10.65 If you click on **Exclude** then press **Reset**, any exclusions you have introduced either now or earlier will be cancelled.
- 10.66 One of the main uses of this exclusion procedure is enable you to form a **shortlist** of decision schemes for closer examination, marking for exclusion those which do not exceed some particular threshold of acceptability in relation to the present comparison area. However, as will be described in section 10.72, STRAD also allows you to carry out similar procedures using a combination of comparison areas. In many circumstances, this will offer a firmer basis for forming a shortlist of more promising schemes.
- 10.67 Note that the exclusion procedure can also be used to exclude on grounds of feasibility particular combinations of options from three or more decision areas; in effect, to introduce a **multiple option bar**. So any particular scheme which is judged to be infeasible because of the incompatibility of some particular threefold or fourfold combination of options within it can be selected for exclusion at this stage.

### The Combined Option Assessment Window

- 10.68 The **combined option assessment window** appears whenever you have highlighted one decision area and more than one comparison area in the main Assess window. As in the case of scheme assessment already described, any of the marker positions may now be adjusted as a temporary measure.
- 10.69 Notice that the yellow strips have now been replaced by darker coloured strips. This is intended as a reminder that you are now working within a **multi-criteria framework** rather than within a single comparison area. Also, the left and right direction labels now read *less preferred* and *more preferred* respectively. Notice that the **calibrate** button is disabled in this window.
- 10.70 *Technical Note: As in scheme assessment, the blue spot marker positions are calculated by straight addition, taking into account which of the left or right directions is the more preferred for each of the comparison areas concerned; the positions of the red range markers are calculated by sum-of-squares calculations as already explained in section 10.60.*
- 10.71 You can now sort the options into preference order as explained in section 10.51. This could occasionally indicate that some options are so inferior to others in relation to your set of comparison areas that you wish to delete them using the decision area detail form.

### The Combined Scheme Assessment Window

- 10.72 The **Combined scheme assessment window**, illustrated overleaf, combines all the features of the scheme assessment window and the combined option assessment window, and offers the most comprehensive basis on which to build a shortlist of your more promising schemes. For it takes into account all the option assessments you have made so far, in any comparison area.
- 10.73 The **combined scheme assessment window** appears when you have clicked on **Select all** then on **Assessment** in the main **Assess** window; or alternatively when you have highlighted more than one decision area and also more than one comparison area in that window.



10.74 In this illustration, the schemes have already been sorted into an overall preference order, and some schemes excluded in order to give a shortlist.

### Pair Comparison through the Balance Window

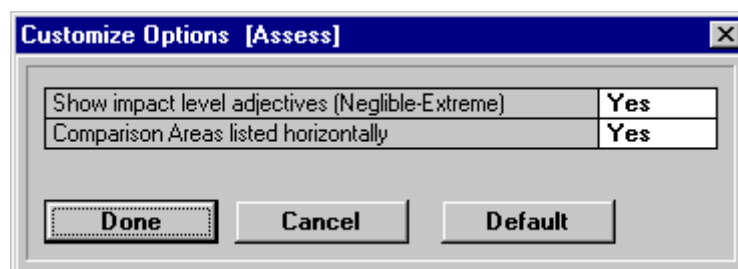
10.75 After you have sorted your schemes into preference order, and excluded any which score less highly in terms of your combined preference measure - or which you do not wish to consider for any other reason - you will be in a good position to start using the procedures of the **balance window**. When you do so, you are advised to keep your combined scheme assessment window open as a point of reference.

10.76 The balance window enables you to make closer comparisons of successive pairs of decision schemes. In this process of pair comparison, the more prominent sources of uncertainty which affect your balance of preferences can be examined in a more methodical way.

10.77 STRAD is set to begin this process of sequential pair comparison by comparing the first scheme in the sorted list with the second, so as to see whether or not there is a clear preference at the head of the list.

### Customizing Features of the Assess Window

10.78 The **Customize** options that are available only when the Assess window is open are comparatively few in number, and are indicated below.



10.79 The first menu option enables you either to show or to hide the impact level labels - *negligible*, *marginal*, *significant*, *considerable*, *extreme* - when working in the main assess window. You may prefer to hide them once you have become fully familiar with the assessment procedures, so that you no longer need to use these adjectives as a means of calibrating your judgements of the impact of decision areas within comparison areas.

10.80 The second menu option allows you to reverse the general **orientation** of the main Assess window, so as to show comparison areas as rows rather than columns, and decision areas as columns rather than rows. This is most likely to be useful when you are working with more than four or five comparison areas, and relatively few decision areas.





## **CHAPTER 11:**

# **The Balance Window**

### **In This Chapter:**

**Function of the Balance Window**

**Window Layout**

**The Comparative Advantage Scale**

**Uncertainty in Judging Comparative Advantage**

**Making Alterations in the Balance Window**

**Advice on Editing the Range of Uncertainty**

**Registering New Areas of Uncertainty**

**Making Pair Comparisons in Sequence**

**Exclusion through Pair Comparison**

**Altering the Level of Acceptable Risk**

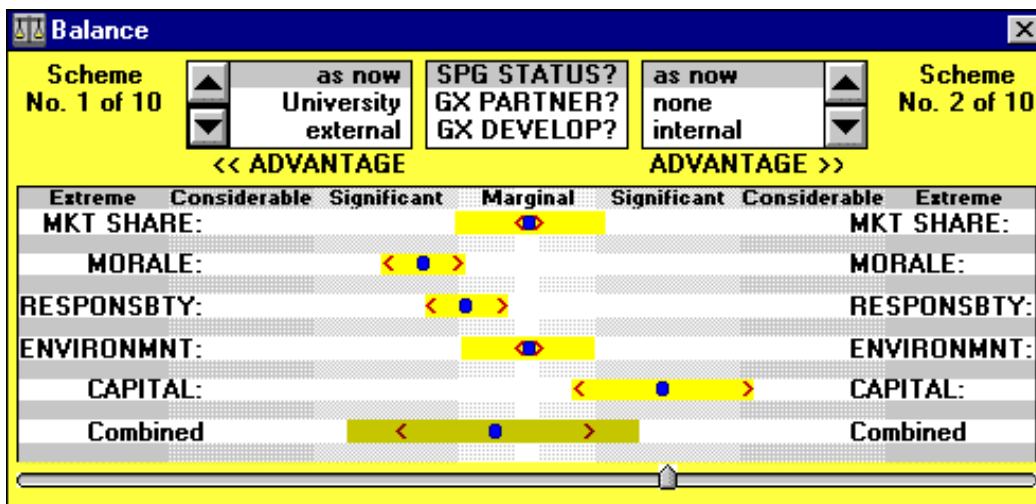
**Customizing Features of the Balance Window**

## Function of the Balance Window

- 11.1 The **Balance window** of STRAD enables you to compare more closely selected **pairs** of decision schemes, or of options from a single decision area, in order to explore in more depth the **relative advantages** of each alternative against the other, and then judge whether or not there is a clear balance of advantage between them.
- 11.2 The procedures of this window enable you to take fuller account of significant sources of **uncertainty** than is possible in the broader option and scheme assessment procedures described in Chapter 10. The balance window also gives you an opportunity to bring into consideration any comparison areas in which no option assessments have yet been made.
- 11.3 You are advised not to begin this process of pair comparison until you have **sorted** a list of decision schemes into a tentative order of preference, as described in the later sections of Chapter 10. - Also, if the list is a long one, you are advised to form a **shortlist** of the more promising schemes within the sorted list, excluding those lower in the preference order. Then you can go through a planned **sequence** of pair comparisons, starting with a comparison between the first preference and the second preference in the list. You can then proceed by moving systematically down the list.
- 11.4 The Balance window enables you to apply a pre-selected **exclusion rule** in conjunction with the pair comparison process. This will recommend you to **exclude** any scheme which is clearly dominated by another of the schemes taking all comparison areas into account. This procedure allows you to specify the level of risk you are prepared to accept of rejecting a scheme which, with more information, you would prefer to have retained.

## Window Layout

- 11.5 The basic layout of the Balance window is illustrated opposite. Of the two schemes or options currently being compared, the first in sequence appears on the right side of the window and the second to the left.
- 11.6 The labels of all the decision areas which are currently in focus are displayed at the top of the window a central position, with the options in the two schemes currently being compared listed immediately to the left and to the right. Any decision areas in which the options are the same are shown with a grey instead of a white background.



- 11.7 The rankings of the two current schemes within the set of schemes you are currently considering are indicated at the top left and top right of the window respectively. Any schemes which have been excluded at any stage are not counted in the total. The arrow buttons which appear near the top of the window on either side enable you to select the next scheme up or

down in the sequence, in place of the scheme currently appearing on either the left or the right side of the window.

### The Comparative Advantage Scale

- 11.8 **Levels of advantage** to either side are indicated by means of a non-numerical **comparative advantage scale**. This is calibrated through a set of **zone labels** - *marginal*, *significant*, *considerable* and *extreme* - which are intended to be interpreted in the same way as the equivalent labels in the main **assess** window. Notice that there is a different intensity of background shading for each band; there is also a slim white band in the centre which can be taken as representing a zone of *negligible* advantage on either side.
- 11.9 The width of each zone is scaled up by a factor of three from the width of the corresponding band in the main Assess window. This is the same factor as applied in scaling up from the main assess window to the associated option and scheme assessment windows. This means that there is an overall consistency in the use of these adjectives within STRAD; for example, a difference between options which covers the extremes of the range in the option assessment window will appear as an extreme difference to one side or the other in the Balance window.
- 11.10 For each comparison area, STRAD calculates the initial position of the spot marker by adding the option differences for each of the decision areas, taking into account which of the two directions is preferred.
- 11.11 If **units of measurement** have been defined for this comparison area, and the scale has been **calibrated** in terms of those units, then you can view the difference between your current pair of schemes expressed in terms of those units by passing the mouse pointer over the position of the spot marker in the balance window.

### Uncertainty in Judging Comparative Advantage

- 11.12 The positions of the two red range markers for each comparison area have been calculated by accumulating the ranges of uncertainty for all the contributory options. You will also see a coloured band covering the range between each pair of range markers, and in some cases extending beyond. This extended range is calculated by taking into account any additional decision areas which are shown in the main **Assess** window as having more than a negligible impact in this comparison area, yet where differences between options have not yet been assessed.
- 11.13 *Technical Note: The distance between the two red range markers is calculated by using the same sum of squares formula which has been described in section 10.60. The formula used in calculating the width of the yellow band takes the sum of squares of the ranges as indicated by the red range markers, then adds the sum of squares of the impact estimates for any decision areas where option differences have not yet been assessed, before taking the square root of the result.*
- 11.14 *This means that the part of the coloured band that extends beyond the range markers can be interpreted as an estimate of the maximum additional uncertainty about the balance of advantage between these two schemes in this comparison area, due to differences between options in decision areas where these have not yet been assessed.*
- 11.15 Near the foot of the Balance window, you will see a **Combined advantage** row in a deeper colour, representing an aggregation of the advantage estimates for each of the comparison areas that appear above. The blue spot marker in this row is obtained by aggregating the positions of the markers on either side of the mid-point of the window. The red range markers and the outer coloured bands indicate the overall level of uncertainty surrounding this estimate, as estimated using the methods already described in section 11.13.

### Making Alterations in the Balance Window

- 11.16 If you wish to modify your previous assessment for any reason, or if you have not yet made any option assessments in any comparison area, then you can adjust the blue spot position with your mouse in the usual way. For a comparison area not yet considered, the spot marker will initially appear in the central position of the range, representing a *negligible* level of advantage to either side. The marker position and range markers in the combined advantage row will also move to reflect any changes you have made.
- 11.17 Notice that you are **not** able in the balance window to alter the distance between any pair of red range markers. This is because the positions of the two range markers are based on estimates of uncertainty which have already been made for the specific options which contribute to this pair comparison; if no such estimates have been made, the two range markers will appear directly adjacent to the spot marker.
- 11.18 *Technical Note: The range estimate for the difference between any pair of options is estimated by squaring the range estimate for each option, adding and taking the square root. This reflects a working assumption that the sources of uncertainty surrounding the options are statistically independent.*
- 11.19 Even though you cannot alter the relative positions of the range markers for any comparison area, you *can* alter the width of the coloured band within which they are set. This is done by clicking with your **right mouse button** on any position on either side of the blue spot marker which lies outside the range of the red range markers. The width of the coloured band will then increase or decrease accordingly, preserving the symmetry on either side of the blue spot marker.

### Advice on Editing the Range of Uncertainty

- 11.20 In a situation where a particular pair of schemes has emerged as particularly promising, yet there is considerable uncertainty as to where the overall balance of advantage between them lies, you are advised to make a systematic review of the range of uncertainty for each of the comparison areas in turn.
- 11.21 In this process, you are advised to ask for each comparison area whether there are **additional sources of uncertainty** to be considered, in addition to those that have already contributed to the estimation of range indicated by the positions of the two red range markers.
- 11.22 In doing this, you are recommended to go through each comparison area in turn, asking yourself a series of questions of the form:
- “Do I see any realistic possibility that there could be a marginal/significant/considerable/extreme advantage to the scheme *other* than that which appears to be favoured by the current position of the blue spot marker?”
- “And could there be any realistic possibility that the level of advantage to the more promising scheme could be higher than the range markers indicate?”
- 11.23 Through such questions - sometimes known **as surprise limit questions** - you can make judgements as to which zones on either side can realistically be *excluded* from the range of reasonable possibilities in the case of each comparison area - leaving a range of realistic possibilities between these limits.
- 11.24 For example, a coloured band extending from the *marginal* zone on the left to the *considerable* zone on the right implies a judgement that, if there were to be any advantage to the scheme on the left over the scheme on the right, then it would be very unlikely to come within the *significant*, *considerable* or *extreme* range; whereas, on the right hand side, it is only the *extreme* advantage level that can realistically be excluded.

### Registering New Areas of Uncertainty

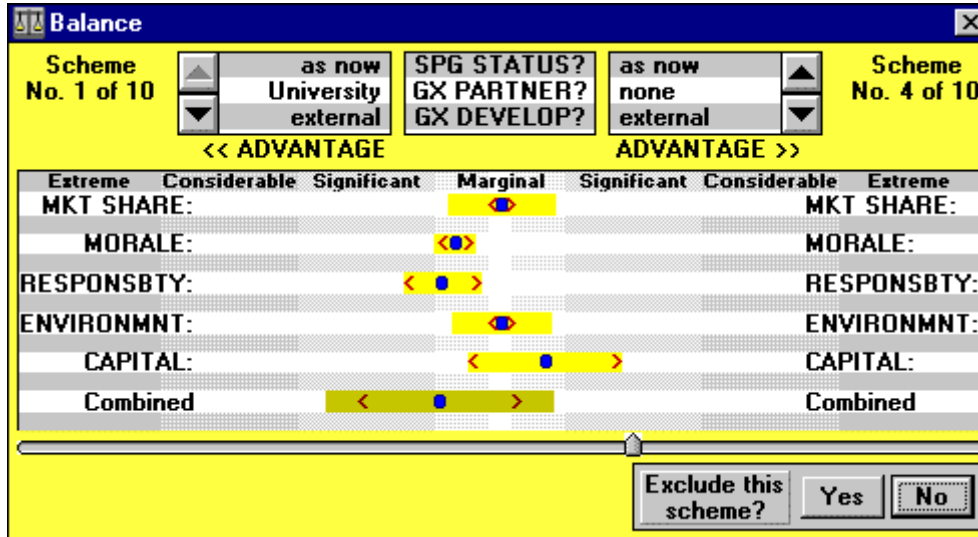
- 11.25 This discipline of making judgements about the full range of uncertainty in each comparison area, while weighing up the balance of advantage for a particular pair of schemes, offers an important means of generating new insights into critical **areas of uncertainty** in your decision process - especially at a stage of your work where you are beginning to narrow down your choice to a few promising schemes.
- 11.26 In any case where you judge that the overall range of uncertainty is significantly higher than that indicated by the positions of the two red range markers, then it becomes important to ask whether this means that you can identify additional areas of uncertainty which have not yet been listed.
- 11.27 To help you in addressing this question, you can call up the **Uncertainty window**, which is to be described more fully in Chapter 12. This displays a list of all the uncertainty areas so far identified, and also enables you to add further areas of uncertainty to the list.
- 11.28 One of the most important outcomes of this process can be to bring out important uncertainty areas of type **UV** which have not yet been recognised - that is, uncertainties pertaining to the **values**. that should guide your decision process.
- 11.29 It may be, for example, that any difficulty which you experience in judging the balance of advantage within some particular comparison area - such as *market share* or *social responsibility* - arises not so much from a difficulty in judging the **extent** of the advantage to either side, but from a difficulty in judging what level of **importance** - or value weighting - to attach to that comparison area relative to others in your decision process.
- 11.30 This is especially likely to be the case where there is *disagreement* between participants in the decision process as to how much weight to put on some criterion as against others. Such disagreement is only to be expected when working with comparison areas for which there is no commonly accepted scale of measurement.
- 11.31 This is quite normal in non-hierarchical situations where there are many parties to the decision process, who represent different interests and do not subscribe to any one overriding objective. However such policy disagreements can also arise even where there is a common scale of measurement - for example, in judging the relative values to be attached to shorter-term against longer-term financial costs or returns.

### Making Pair Comparisons in Sequence

- 11.32 The balance window enables you to make a series of pair comparisons in sequence, moving from one decision scheme to the next by use of the arrow buttons towards the top of the window, as already mentioned in section 11.7. The arrow buttons on the left relate to the left hand scheme, enabling you to move either down or up to the next scheme in the sequence; while the arrow buttons on the right enable you to move to a new right hand scheme in the same way. Where there is no further scheme to visit in the sequence, the arrow button is disabled.
- 11.33 Where you have already sorted your schemes into rank order, using either a single comparison area or a combination of comparison areas, STRAD will start by comparing the **first-ranking scheme** with the **second-ranking scheme** in that sequence.
- 11.34 By moving down from the second-ranking scheme to other lower-ranking schemes in your list, you can identify those which you judge to be clearly inferior to the first ranking scheme, eliminating them from further consideration if you wish. Depending on the time pressures under which you are working, you can then go on to compare the second-ranking scheme with each of the others that remain; this may possibly enable you to eliminate some of the other alternatives remaining on your list.

## Exclusion through Pair Comparison

- 11.35 To help you in judging whether there is a clear balance of advantage to either of the two schemes in your current pair comparison, STRAD enables you to apply an adjustable **exclusion rule**, as a source of advice on whether either of the two schemes currently displayed should be rejected in favour of the other.
- 11.36 At the foot of the balance window, you will see a small upward-pointing arrow, or **risk marker** - the position of which is adjustable, as will be explained later. Notice that, as you move from one pair comparison to another, the risk marker sometimes moves from one side of the central zone of negligible advantage to the other.
- 11.37 This depends on whether the blue spot marker for the combined advantage row lies on the left or the right side of the central zone. If the spot marker is to the left, the risk marker will appear to the right, and vice versa.
- 11.38 The risk marker is used to indicate a critical level at which a recommendation to **exclude** one or other scheme will appear at the foot of the window, on the grounds that there is sufficiently strong evidence that the overall balance of advantage lies to the other side.
- 11.39 If the spot marker lies to the *left* of centre - indicating that the balance of advantage is more likely to lie with the scheme on the left - and if also the coloured band representing the range of uncertainty lies entirely to the *left* of the risk marker, then the question **Exclude this scheme?** will appear at the *right* side of the window, as shown on the next page. The same question will appear at the *left* side of the window if the spot marker lies to the *right* side, and the coloured band representing the range of uncertainty lies entirely to the *right* of the risk marker.
- 11.40 This question alerts you to the view that there is a low risk that, by excluding the apparently less preferred scheme at this stage, you might be rejecting an alternative which, on closer examination, might turn out to be preferred.



- 11.41 Against the question **Exclude this scheme?**, you will see a pair of buttons enabling you either to accept or reject this recommendation.
- 11.42 In the example, the balance of advantage appears to be with the scheme on the left, so the risk marker appears to the right - in this case, in a position on the boundary between the *marginal* and the *significant* zone. Because the range for the combined advantage lies entirely to the left of the risk marker, the implication is that there is unlikely to be a significant or higher level of advantage to the scheme on the right hand side - even though it is just possible that there could be a *marginal* advantage in that direction. On these grounds, you are asked whether you wish to exclude the right-hand scheme in favour of the other.

11.43 If you answer **Yes** to the question **Exclude this scheme?**, then the scheme will be duly excluded from further consideration; and the display will now change to show the next scheme in your sequence in its place. If you answer **No**, then the question will disappear, and the existing display will remain.

### Altering the Level of Acceptable Risk

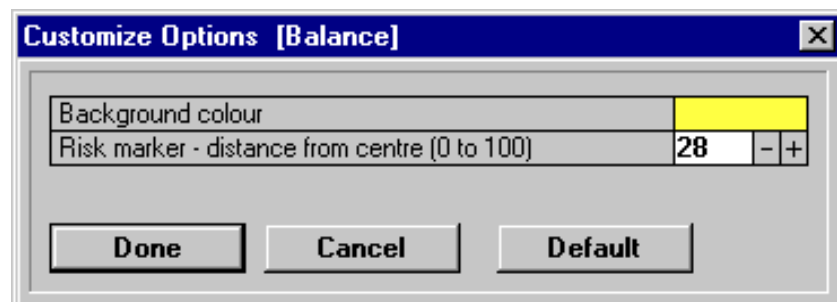
11.44 If you wish to alter the level of risk that is acceptable to you, you can move the position of the risk markers further in or out from the centre by pointing at it with your mouse and dragging it with the left mouse button.

11.45 For example, if you were to move the risk marker from the boundary between the *marginal* and *significant* zones - which is the default position - to the boundary between the *significant* and *considerable* zones, then you would be accepting a higher risk of making a judgement you would regret by accepting the **Exclude** recommendation.

11.46 *Technical note: Users familiar with probability theory may like to think of each range as indicated in this window - and also in the option and scheme assessment windows - as spanning the 2 sigma range of a normal distribution. This implies a probability of about 1 in 40 that, on closer exploration, the estimate might be found to lie outside the limits of the range on the left, and the same probability that it might be found to lie outside the range at the right.*

### Customizing Features of the Balance Window

11.47 When the balance window is open, a **Balance** option appears in the **Customize** menu. This gives access to only two customization options, as shown below.



## **CHAPTER 12:**

# **The Uncertainty Window**

### **In This Chapter:**

**Function of the Uncertainty Window**

**Window Layout**

**Recording Additional Uncertainty Areas**

**Reviewing the Prominence of Uncertainty Areas**

**Use of the Uncertainty Graph**

**Balancing Uncertainty Areas by Type**

**Adjusting for a Change of Project Focus**

**General Advice on Uncertainty Review**

**Customizing Features of the Uncertainty Window.**

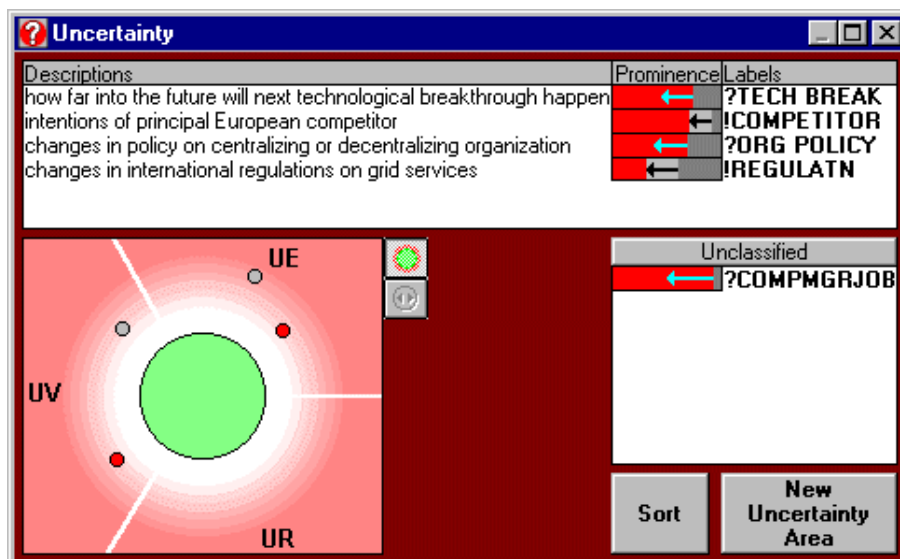


## Function of the Uncertainty Window

- 12.1 The **Uncertainty window** enables you firstly to *view* information on the full set of uncertainty areas which have so far been identified; secondly to *add* to this set of uncertainty areas whenever new sources of uncertainty have been identified; thirdly to *edit* information on several uncertainty areas at a time; and lastly to make informed judgements as to which areas of uncertainty should be addressed through some kind of *exploratory action*.
- 12.2 The main value of the uncertainty window is that it enables you to review all areas of uncertainty within the same decision-centred perspective. This is especially important at a stage of your work when you are beginning to consider making decisions in some at least of your more urgent decision areas, and when you must therefore judge which uncertainty areas it is most important to address in order to make those decisions in a more confident way.
- 12.3 One particular use of the uncertainty window is to enable you to reappraise the relative **prominence** of your uncertainty areas at a stage when you have identified, through the **Balance window**, a pair of schemes which show particular promise in relation to the others, when the overall balance of advantage between them is unclear.

## Window Layout

- 12.4 The general layout of the uncertainty window is illustrated opposite. At the top of the window is a full list of the descriptions and labels of all the uncertainty areas which you have so far **classified** in terms of the **UE**, **UV** and **UR** categories. Below this is a list of the labels only of all unclassified uncertainty areas; and also an **uncertainty graph** in which all the classified uncertainty areas are located in clock positions corresponding to their UE/UV/UR type, with those of higher prominence placed closer to the central circle. Notice that the uncertainty graph has a similar format to the overview graph in the overview window.
- 12.5 When you place the mouse pointer within the central circle of the uncertainty graph and click with your left mouse button, the set of decision areas currently in focus is displayed. Also, the label of each uncertainty area temporarily appears when you place the mouse pointer over its position on the graph and click.



## Recording Additional Uncertainty Areas

- 12.6 You can expect to identify new areas of uncertainty at any time in your work on a project. Some may emerge at the beginning, while you are developing your initial issue list. Others may emerge while you are considering whether or not particular options will be available within

decision areas, or whether certain option combinations should be excluded. Others again will emerge while you are attempting to make comparisons between particular options or schemes.

- 12.7 As indicated in section 11.25, you can expect to identify several new sources of uncertainty at a stage when you have identified a pair of promising schemes, and when you are concerned to explore whether or not there are clear grounds at this stage for preferring one to the other, taking all relevant comparison areas into account.
- 12.8 In normal circumstances, you are advised to be methodical in building up a rounded view of all significant sources of uncertainty throughout your work on a project - the exception being when you are working under tight time pressures to arrive at quick decisions. You are encouraged to open the uncertainty window - where possible, without closing your current window - at any stage when you become aware of a source of uncertainty which you suspect may not yet have been recorded as an uncertainty area.
- 12.9 When you open the uncertainty window, you are advised first to scan the list of classified uncertainty areas at the top, and the labels of any unclassified uncertainty areas below, in order to see whether the uncertainty area you have just encountered - or one which may be closely related to it - has already been recorded.
- 12.10 If not, then you should click on the **New Uncertainty Area** button, whereupon a blank **Uncertainty Area Detail form**, as described in sections 6.38 and 6.39, will appear. You can then enter your description and label, and any other information which you judge to be appropriate at this stage - including its **type** within the UE/UV/UR classification if you believe you might wish to explore ways of responding to the uncertainty area at this stage.
- 12.11 If you see a partial overlap between your new uncertainty area and any of the uncertainty areas already listed, then you may now also wish to express the existing uncertainty area in somewhat different terms, to make the difference between the two uncertainty areas more clear. This can be done by double-clicking on the label of the existing uncertainty area to call up its detail box and edit its content in the usual way.

### Reviewing the Prominence of Uncertainty Areas

- 12.12 When you have reached a stage in your work at which you wish to begin moving towards a strategy for action - in the form of a **progress package** - it becomes important to review which of your uncertainty areas are most **prominent** in relation to the decisions now to be made, so that you can consider whether or not you might address these by some kind of **exploratory action** - whether in the form of investigation, consultation or negotiation.
- 12.13 In the uncertainty window, the prominence level of each uncertainty area is indicated graphically to the left of its label, to the same scale as is used in the uncertainty detail form. If no exploratory option has been selected in response to some uncertainty area, yet an assessment has been made as to its **tractability** as described in section 6.44, then a left-pointing arrow will appear within the prominence band. This arrow indicates that a judgement has been made as to the potential that exists to reduce the prominence of the uncertainty area through some kind of exploratory response.
- 12.14 Wherever one or more exploratory options have been considered, and one of these has been selected as a basis for action by the **locking** procedure described in sections 6.48 and 6.49 - then a left-pointing arrow appears *outside* the prominence band indicating the extent to which the prominence of the uncertainty area is expected to be reduced through that action. The width of the band containing the arrow reflects any assessment you have made in the uncertainty area detail form about the **gain** in confidence to be achieved by selecting this exploratory action.
- 12.15 For any uncertainty area which has not yet been locked by the selection of a particular exploratory option, you can make whatever **adjustments** you wish in the prominence level by clicking with your mouse. Notice that the arrow representing tractability also moves, so that its proportional position remains fixed. Where an uncertainty area is locked, notice that both the prominence level and the position of the arrow representing the level of gain remain fixed.

- 12.16 By clicking on the **Sort** button, you can rank all your classified uncertainty areas into descending order of prominence. In the case of locked uncertainty areas, it is the expected prominence level *after* adopting the selected exploratory option that counts.
- 12.17 If there is any uncertainty area of high prominence in the unclassified list, you are advised to classify it now, either through the detail form or through using the uncertainty graph as explained below. The uncertainty area will then be added to the classified list, which can be re-sorted if desired.

### Use of the Uncertainty Graph

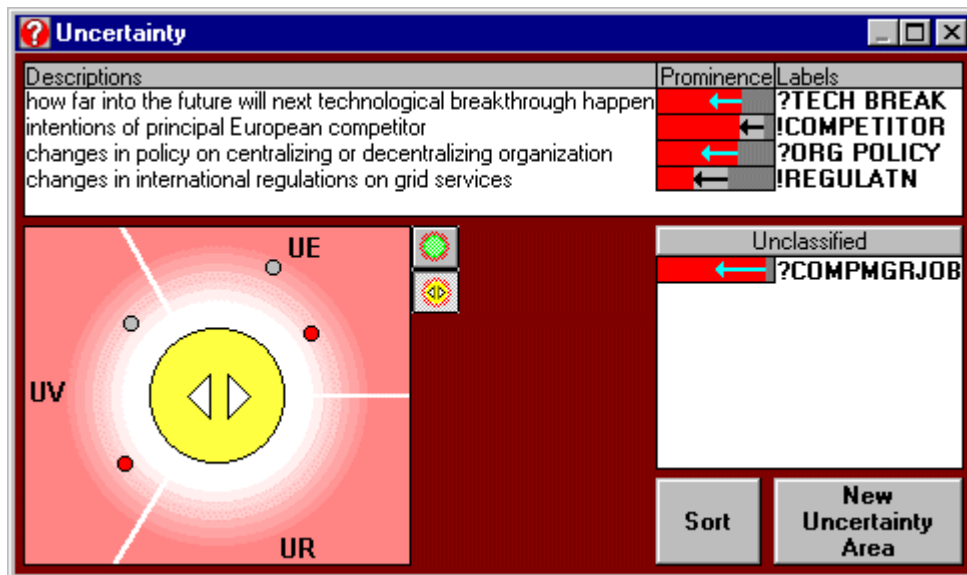
- 12.18 An alternative and more direct method of making adjustments in the relative prominence of your uncertainty areas, and in their classification, involves the use of the **uncertainty graph** which occupies the lower left part of the window, and covers classified uncertainty areas only. Uncertainty areas are here represented by red spots - or by grey ones if they are locked - those of higher prominence being located closer to the rim of the central circle. By clicking on any spot appearing on the uncertainty graph, you can read the label of that uncertainty area and thereby link it to the corresponding entry in the list at the top of the window
- 12.19 Pointing and dragging enables you to shift any uncertainty area which is not currently locked to a new position anywhere within the shaded area of the graph. You can also place an unclassified uncertainty area within the graph by pointing to its label and dragging it across.

### Balancing Uncertainty Areas by Type

- 12.20 The position of any unlocked uncertainty area on the uncertainty graph corresponds directly to its position on the overview graph. Therefore, if there are any uncertainty areas which have become too tightly bunched in the overview graph, you can use the graph in the uncertainty window to separate their positions.
- 12.21 More importantly, if there appears to be a relative absence of uncertainty areas of any of the three types UE, UV and UR, then you can ask whether there are indeed fewer uncertainty areas of this type; or whether perhaps your work so far has been biased towards the consideration of other categories. In some contexts, for example, policy uncertainties of type UV which affect the relative weights of key comparison areas may tend to be forgotten until their absence becomes apparent on the uncertainty graph.

### Adjusting for a Change of Project Focus

- 12.22 Whenever a change is made in the project **focus** through the Focus window, you are advised to review and adjust the relative prominence of all uncertainty areas. For some uncertainty areas may become more prominent, and others less so, as new decision areas come into the focus and others drop out. In particular, the relative prominence of uncertainty areas may change significantly once you start focusing in on a particular pair of promising schemes and examining how far you can arrive at a preference between them, using the procedures described in Chapter 11.
- 12.23 At this stage, you are advised to keep both the Balance window and the Uncertainty window open at the same time, positioning them so that as much as possible of each window is visible. You can now click on the lower of the two small square buttons in the Uncertainty window - which is disabled when the Balance window is *not* open. This will change the green circle in the uncertainty graph to a yellow circle containing a pair comparison symbol, as shown opposite.



- 12.25 When this pair comparison symbol is showing, you can edit the prominence of any open uncertainty area, either on the list or the graph, to reflect its prominence in relation to the specific pair of schemes now being considered. Any such change will *not* permanently replace the prominence level as recorded before the switch was made. When you click on the small button with the green circle icon, the original prominence levels will reappear.

### General Advice on Uncertainty Review

- 12.26 In reviewing your overall strategy for the management of uncertainty, you are advised to focus in particular on those uncertainty areas of high prominence where no exploratory action has yet been considered. In general, it is unlikely to be worth your while to pursue exploratory options in uncertainty areas of low prominence, so long as uncertainty areas of significantly higher prominence remain.

### Customizing Features of the Uncertainty Window.

- 12.27 Although the **Customize menu** displays an **Uncertainty** option whenever the uncertainty window is open, the only feature that this enables you to change is the background colour of the window.

## **CHAPTER 13:**

# **The Progress Window**

### **In This Chapter:**

**Function of the Progress Window**

**Window Layout**

**Examining and Editing Area Details**

**Altering the Level of Commitment**

**Reallocating Areas among Sectors**

**Adopting a Progress Package**

**Working on an Adopted Progress Package**

**Cancelling the Adoption of a Progress Package**

**Printing a Progress Package**

**General Advice on Building a Progress Package**

**Customizing Features of the Progress Window**

## Function of the Progress Window

13.1 The **Progress window** enables you at any time to view an overall picture of the progress you have made so far towards choosing:

**decision options** in any of your **decision areas**, whether inside or outside your current project focus;

and also **exploratory options** through which to address those **uncertainty areas** which you judge to be most prominent in relation to those other decision areas which remain to be addressed at some point in the future.

13.2 The progress window also allows you to modify this **progress package** by selecting a preferred decision option in any decision area which remains open; or by selecting a preferred exploratory option in any of your uncertainty areas where no such option has yet been chosen. In this way, you can make progress rapidly on more peripheral or isolated issues which may not necessarily be within your current project focus, enabling them to be included within an overall package of commitments or recommendations with which to move forward at this stage.

13.3 The Progress window also enables you to register when you are ready to **adopt** a particular progress package as either a basis for **commitment**; or as a basis for **recommendation** to others; or as a **strategic option** for presentation alongside other such options..

## Window Layout

13.4 As shown in the example below, the main rectangular grid within the progress window is divided vertically into a **Now** section, covering elements of the project where action has now been agreed, and a **Future** section covering other elements in relation to which choices still remain open.

13.5 Each section is in turn divided into a first column for **decision areas** and a second column for **uncertainty areas**. The label of the selected decision option or exploratory option is displayed against each decision area or uncertainty area in the *Now* section.

13.6 If you have already identified **sectors of responsibility** for any of your decision areas or uncertainty areas - which may be individuals, sections, departments or distinct organisations depending on the context - then the array will also be ruled off horizontally into blocks that show which areas are allocated to which sectors. Unless you have allocated all your areas to specific sectors, the first horizontal block will be headed *general*, and will include all areas for which sectors of responsibility have not yet been specified.

Sector	NOW		FUTURE	
	DECISIONS: Actions	UNCERTAINTIES: Explorations	Decisions	Uncertainties
General			REG TRANSF? GX RESTRIC?	
Board			SPG STATUS? CHARGING? DIVERSIFY?	?ORG POLICY ?VALRESPBTY
SPG	SPGCONSULT! universally!	!COMPETITOR mkt intell!	GX MARKET? GX PARTNER? GX DEVELOP?	
Personnel	TRAINING! yes!			?COMPMGRJOB
Legal		!REGULATN ask lawyer!		
Engineers				?TECH BREAK

- 13.7 A green background is used to identify all decision areas which are included in your current **project focus**, while a pink background is used to identify all uncertainty areas which have so far been **classified** - reflecting the conventions also used in the Overview window.

### Examining and Editing Area Details

- 13.8 In the Progress window, further information on the current status of any decision area or uncertainty area can be examined, and edited if desired, by double-clicking on its label with the left mouse button - just as it can in any other of the main STRAD process windows. The corresponding **area detail form** for that decision area or uncertainty area will then appear; and you may make whatever changes you wish using the various procedures already described in Chapter 6.
- 13.9 In particular, if you are almost ready to adopt your current progress package as a basis for commitment, or as a basis for recommendation to others, then you may wish to call up the detail forms for all those decision areas and uncertainty areas in the **Now** section of the package, so as to enter fuller **action details** as a guide to implementation, as described in section 6.58.

### Altering the Level of Commitment

- 13.10 Also, any decision area or uncertainty area can be moved directly from the **Future** section of the progress package into the **Now** section, so long as options have been specified and you feel ready to select the one you prefer. If you point at the area label and click, you can drag it forward into the corresponding Now column. The options available will then be displayed - as in the example below - enabling you to click on whichever you prefer; this changes it to the **locked** state. If no options have yet been specified, you will be asked whether you wish to specify them at this stage, via the relevant type of detail box.
- 13.11 You can also drag decision areas back from the **Now** column to the **Future** column, in which case the option which has been locked will be **unlocked** again.
- 13.12 As an alternative, you can of course carry out these locking and unlocking operations in the area detail form in the normal way. However, once you have started working in the progress window, it becomes faster to make these alterations in the level of commitment in a more direct way.

Sector	NOW		FUTURE	
	DECISIONS: Actions	UNCERTAINTIES: Explorations	Decisions	Uncertainties
General			REG TRANSF? GX RESTRIC?	
Board	Select option to lock in the decision area CHARGING?		SPG STATUS? CHARGING? DIVERSIFY?	?ORG POLICY ?VALRESPBTY
SPG	yes no	universally! !COMPETITOR mkt intell!	GX MARKET? GX PARTNER? GX DEVELOP?	
Personnel	TRAINING! yes!			?COMPMGRJOB
Legal		!REGULATN ask lawyer!		
Engineers				?TECH BREAK

### Reallocating Areas among Sectors

- 13.13 You can also drag any decision area or uncertainty area *vertically* upwards or downwards within a progress package, in order to transfer it to a different sector of responsibility. This feature can be used in particular to reassign responsibilities from the *General* sector to more specific

sectors. If you wish to specify some new sector of responsibility while working in a progress package, then you should call up the area detail form for any of the decision areas or uncertainty areas which you wish to place in this sector, and use the procedure already described in section 6.25.

### Adopting a Progress Package

13.14 In the top left corner of the progress window is a menu heading labelled **Adopt**. If you click on this with your left mouse button, a choice of three menu options will appear:

**as a basis for commitment**  
**as a basis for recommendation**  
**as a strategic option**

13.15 If you select any one of these options with your left mouse button, the header bar of the progress window will alter to indicate in which of these three forms progress package has been adopted. Also, the colour of the border will change; these colours can be customized, but the default settings are:

deep purple for a **commitment**;  
a lighter mauve for a **recommendation**;  
a light blue for a **strategic option**.

13.16 If you adopt your package as a **strategic option**, you may wish to go on to develop and adopt other strategic options for presentation as alternatives. However, if you do this, you should save the project file after adopting your first strategic option, then continue working on it under an altered filename, so that each strategic option in your set will be saved in a different project file.

13.17 Each time you adopt a progress package, you are advised to use the **Project details** option in the STRAD **file menu** to enter notes on the specific circumstances under which this step towards commitment was undertaken.

### Working on an Adopted Progress Package

13.18 Once a progress package has been adopted, you can no longer move decision areas between the **Now** section and the **Future** section or vice versa; nor can you move them between sectors.

13.19 After you have adopted a progress package, you can still call up any of the other main process windows, to inspect the information currently available in them; but you will find that most of the procedures which enable you to make changes in these other windows are disabled. Although you can open the main Assess window, you cannot open any of the secondary option and scheme assessment windows.

13.20 You can, however, carry out normal editing operations in the area detail forms; in particular, you can make alterations or extensions to the **Action details**. This means that you can continue specifying more detailed implementation information relating to your progress package once you have saved it in an adopted form.

### Cancelling the Adoption of a Progress Package

13.21 At any time after you have adopted a progress package, you can **cancel** the adoption again. To do this, click on **Adopt** and select the **Cancel Adoption** option which now appears.

13.22 This procedure is useful in particular when you return to a project file some time after you last worked on it. If you find on reopening the file that an adopted progress package is displayed, in place of the overview window, you can then cancel the adoption and call up details of each of

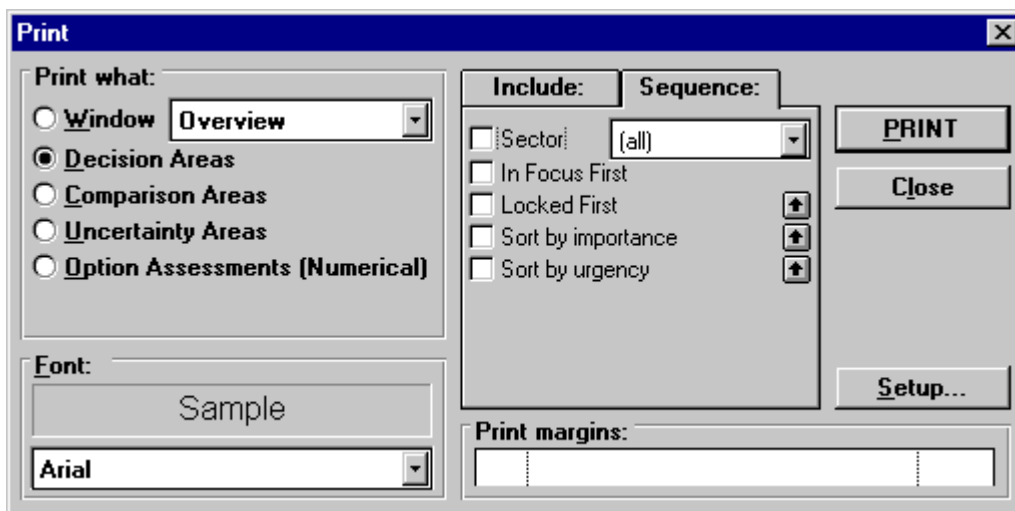


the decision areas and uncertainty areas in turn, checking the action that was specified against any information you have on what has now actually happened.

- 13.23 At this stage, STRAD can therefore be used as a means of controlling the implementation of agreed actions. Where actions in relation to particular decision areas have already been carried through, then the areas concerned can be deleted as elements in your project file before you continue the next stage of your work.
- 13.24 You can review any uncertainty areas in the **Now** section of the package in exactly the same way. However, in this case it should be borne in mind that some exploratory actions may take some time to follow through. This may mean that it is worth keeping the uncertainty area as part of your project structure until such time as the chosen programme of investigation, consultation or negotiation has been completed.

### Printing a Progress Package

- 13.25 Once a progress package has been adopted as a basis for commitment or recommendation, or as one strategic option among others, it becomes important to consider generating hard copy in the form of printouts of your latest project information.
- 13.26 Print procedures have been described in general terms in sections 4.25 to 4.31. In the case of an adopted progress package, you are recommended as a first step to make a print of the progress window itself, as a summary of the set of agreements that has been made. However, it can also be important to supplement this with detailed printouts of decision areas and uncertainty areas, with full supporting notes and action details.
- 13.27 If you select either **decision areas** or **uncertainty areas** in the print window, then click on the **sequence** button, you will be presented with various options as to the sequence in which information is presented, as shown below.



- 13.28 The **arrow buttons** enable you to shift the various sequence options into a different order, to change the hierarchy of the sort procedure. For example, to produce hard copy which will be of maximum value for implementation, you might sort decision area information first by *sector of responsibility*; then by *Now* versus *Future* (i.e. locked versus unlocked); then by level of *importance*.

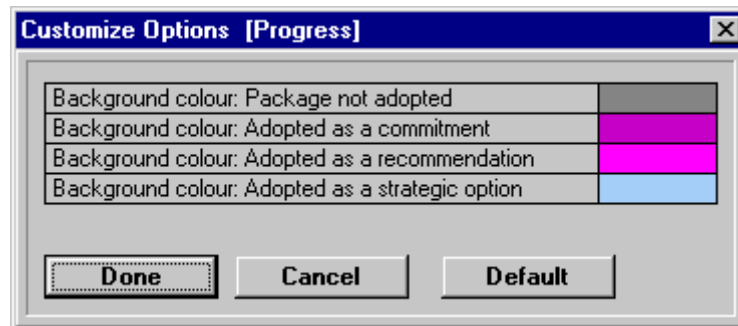
### General Advice on Building a Progress Package

- 13.29 Such questions as when to adopt a progress package, and in what form to adopt it - as a basis for commitment or recommendation, or as a strategic option - will inevitably be guided more by the actual context in which you are working than by judgements relating to your use of the software. So will the degree of detail in which the specific action proposals are recorded.

- 13.30 However, it should be remembered that action details can be recorded not only for decision areas and uncertainty areas in the **Now** section of a package, but also for those in the **Future** section.
- 13.31 For those decision areas and uncertainty areas that remain open, it is possible to use the various headings of **Action details - What, When, Who** and **Resources/Authority**, to enter any agreements or understandings as to the procedures by which future decisions are to be made; the proposed timescales; and the people who are to be involved.
- 13.32 This emphasises the important general point that, in a process of developmental decision-making, each progress package marks an incremental step in a continuing process - or, often, in a network of interrelated processes in which people with different responsibilities working together on a project may be involved.

### Customizing Features of the Progress Window

- 13.33 Whenever the progress package window is open, the **customize menu** includes a **progress** option which brings up the set of options shown opposite. These options are all concerned with changes to the background colour used to distinguish whether a progress package is currently open, or is adopted as either a basis for commitment or recommendation, or as a strategic option



## CHAPTER 14:

# Glossary

*Terms included in this Glossary:*

Action Details  
Adoption of a Progress Package  
Advantage scale  
Area Detail Forms  
Assess Window  
Balance Window  
Calibration  
Choosing Mode  
Classifying an Uncertainty Area  
Combined Option Assessment  
Combined Scheme Assessment  
Comparing Mode  
Comparison Area  
Comparison Area Detail Form  
Compatibility of Options  
Compatibility Window  
Cost of Exploratory Options  
Decision Area  
Decision Area Detail Form  
Decision Graph  
Decision Link  
Decision Option  
Decision Scheme  
Delay from Exploratory Options  
Designing Mode  
Direction Labels  
Exclusion of Decision Schemes  
Exploratory Option  
Focus Window  
Gain from Exploratory Options  
Impact Assessment  
Issue  
Issue Bank  
Issue Entry Form  
Locking Decision Options  
Locking Exploratory Options  
Notes  
Option Assessment  
Option Bar  
Option Bar Reason  
Option Descriptions  
Option Tree  
Orientation of Comparison Areas  
Overview Graph  
Overview Window  
Pair Comparison  
Preference between Directions  
Progress Package  
Progress Window  
Project File  
Project Focus  
Prominence of Uncertainty Areas  
Range Markers  
Released Schemes  
Risk Marker  
Scheme Assessment  
Schemes Window  
Sectors of Responsibility  
Shaping Mode  
Spot Markers  
Suspending Bar Reasons  
Tractability of Uncertainty Areas  
UE Type of Uncertainty  
Uncertainty Area  
Uncertainty Area Detail Form  
Uncertainty Graph  
Uncertainty Window  
Units of Measurement  
UR Type of Uncertainty  
UV: Uncertainty concerning Guiding Values

## Action Details

**Action details** can relate to either decision areas or uncertainty areas. They are entered by clicking on the **Action** button in the **decision areas detail** or **uncertainty area detail** form. Additional fields then appear within which you can type in further textual information under four headings: **what to do**; **when**; **who**; and **resources/authority**. The last heading is relevant only when an action requires an explicit allocation of budgetary or human resources, or some kind of formal authorisation process.

Action details will normally be entered only once a **progress package** has been developed towards the end of a STRAD session. Action details will be especially relevant to decision areas and uncertainty areas in the **now** section, where specific actions and explorations have been proposed. However, they may also be entered for areas in the **future** section, to register any agreements on the timing, responsibilities or procedures for addressing any important decision areas or uncertainty areas at a later stage.

## Adoption of a Progress Package

A progress package may be **adopted** by clicking on the word **Adopt** in the top left corner of the grid. It may be adopted either as a basis for commitment; a basis for recommendation to others; or a strategic option to be put forward alongside other alternatives. Once a progress package is adopted and the relevant project file is closed, you will find on reopening the file that the progress window appears instead of the overview window, with an indication of its status. You can then check for the implementation of any agreed actions before continuing work on the project.

## Advantage scale

A non-numerical scale of **relative advantage** is used to weigh up the overall balance of advantage between any pair of **decision schemes** in the **balance window**. The scale is divided into zones of more or less equal width labelled *marginal*, *significant*, *considerable* and *extreme*. The mid-point of the marginal zone represents a point of *negligible* advantage either way, while the *extreme* zone is regarded as extending indefinitely outwards in both directions.

Users are encouraged to make their own judgements as to what levels of relative advantage in each comparison area should be considered *negligible*, *marginal*, *significant*, *considerable* or *extreme* within their own current organisational or political context. Note that the same phrases also appear in the main **assess window** in relation to whichever cell of the grid is currently being assessed; this provides a means of starting to calibrate the meanings you attach to the various terms at an earlier stage of your work.

## Area Detail Forms

Three types of **area detail form** are provided in STRAD 2: the **decision area detail form**, the **comparison area detail form** and the **uncertainty area detail form**. Each of these can be called by double-clicking on the label of an area of the relevant type wherever it appears. While the types of detailed information that can be recorded in each type of form differ, each of them contains fields in which the area **label** and **description** are displayed, and a button which can be used to enter or inspect more detailed **notes**.

## Assess Window

The **Assess window** is one of the eight main *process windows* of STRAD 2; along with the **Balance window**, it supports the work of the **comparing** mode of the strategic choice approach. The main **Assess window** enables you to size up the relative level of impact of

different **decision areas** within different **comparison areas**; it also gives access to other subsidiary windows concerned with the more specific processes of **option assessment** and **scheme assessment**.

### Balance Window

The **Balance window** is one of the eight main *process windows* of STRAD 2; along with the **Assess window**, it supports the work of the **comparing** mode of the strategic choice approach. The balance window enables you to examine pairs of alternative decision schemes or options in depth, taking uncertainty systematically into account. In this way, it helps you to form a view of the overall **balance of advantage** between any pair of alternatives which has emerged from the process of scheme or option assessment as showing particular promise.

In the balance window, you can work through a sequence of pair comparisons, discarding any alternative where there is a sufficiently low risk that you are making a judgement that you might later regret.

### Calibration

Any assessments of the differences between decision options or schemes within particular comparison areas can be **calibrated** in numerical terms wherever units of measurement have been defined - although in STRAD there is no need to introduce such units where no externally-defined scales already exist.

In order to calibrate a comparison area, it is necessary to attach different numerical values to two points in the option assessment window for any one of the decision areas; or in the scheme assessment window for some set of decision areas. STRAD will then compute numerical values for all other option or scheme positions. You can adjust the position of the zero point for other decision areas, but this does not affect the differences between options.

### Choosing Mode

The **choosing mode** is one of the four basic modes of the strategic choice approach. It is supported in STRAD 2 through the procedures of the **Uncertainty** and **Progress** windows.

### Classifying an Uncertainty Area

An uncertainty area is said to be **classified** when it is allocated to one of the three categories **UE** (Uncertainties concerning the **E**nvironment in which you are working); **UV** (Uncertainties concerning the **V**alues that should guide your decision process) and **UR** (Uncertainties concerning **R**elated agendas of choice).

You can classify an uncertainty area either through the **uncertainty area detail form** or through the **uncertainty graph** in the **uncertainty window**. Using either method, it is possible to classify an uncertainty area in an intermediate position between any two of the three categories; but note that you cannot classify it as containing elements of all three.

### Combined Option Assessment

The procedure of **combined option assessment** involves assessing the differences between options within the same decision area in relation to multiple comparison areas, using the **combined option assessment window**.

STRAD will combine any option assessments that may have been made for the separate comparison areas, taking into account your current judgements of their relative value

weightings. You can adjust the assessed position of any option in this window by altering the positions of the spot markers and range markers as required.

### Combined Scheme Assessment

The procedure of **combined scheme assessment** involves assessing the differences between **decision schemes** for a selected set of decision areas in relation to multiple comparison areas, using the **combined scheme assessment window**.

STRAD will combine any option assessments that may have been made for the constituent decision areas and comparison areas. You can adjust the position of any scheme in this window by altering the positions of the spot markers and range markers as required.

### Comparing Mode

The **comparing mode** is one of the four basic modes of the strategic choice approach. It is supported in STRAD 2 through the procedures of the **Assess** and **Balance** windows.

### Comparison Area

Any area of concern which is used to compare the expected consequences of alternative decision options or schemes can be expressed as a **comparison area**. The concept of a comparison area corresponds broadly to that of a **criterion** in other approaches to decision-making; but it does not carry the implication that a particular scale of measurement must *necessarily* be defined.

When building an initial issue list with STRAD, it is usually advisable to express any issue that relates to a choice of broad goals or objectives as a **comparison area** rather than a **decision area**.

### Comparison Area Detail Form

Every comparison area has an associated **Comparison Area Detail Form**, which can be called by double-clicking on the label of the area wherever it appears. Within this form, you can enter and edit various kinds of supporting information, including **direction labels** and **preference indicators** which set the **orientation** of the comparison area and, optionally, **units of measurement** for use in **calibrating** it.

### Compatibility of Options

Any pair of options from different decision areas may be judged to be either mutually **compatible** or **incompatible**, according to whether or not it is judged possible to combine them. Incompatible combinations are marked with a **cross** in the option compatibility window. In the strategic choice approach, a relationship of incompatibility between a pair of options from different decision areas is called an **option bar**.

It is possible also to use a **question mark** to indicate an **uncertain option bar** for any pair of options which are of doubtful compatibility.

## Compatibility Window

The **Compatibility window** is one of the eight main *process windows* of STRAD 2; along with the **Schemes window**, it supports the work of the **designing** mode of the strategic choice approach. The compatibility window enables you to examine pairs of options from different **decision areas**, checking them for mutual compatibility, as a basis from which STRAD will then develop a set of **decision schemes** to represent the full range of choice open to you.

## Cost of Exploratory Options

When considering possible exploratory options in the uncertainty area detail form, STRAD enables you to enter quick visual judgements of the levels of **cost** and **delay** that are likely to be incurred. These can then be balanced against the expected benefit in terms of a **gain** in the level of confidence you expect in facing the decisions now ahead of you - or, in other words, a reduction in the level of uncertainty which surrounds them.

It is important to bear in mind that the main costs of pursuing an exploratory option will not always be financial - often, they may involve claims on the time of a busy person with valuable expertise, or on the time of a committee or other decision-making group which meets occasionally with many rival claims on their agenda.

## Decision Area

Any area of concern in which those involved in the current decision process have an opportunity to choose between two or more different courses of action, or two or more different policy positions, can be expressed as a **decision area**.

When building an initial issue list with STRAD, it is usually advisable to express any area of choice over which those currently involved have little direct influence not as a decision area but as an **uncertainty area** of type **UR**; and any area to do with choice of priority between conflicting goals as an **uncertainty area** of type **UV**.

## Decision Area Detail Form

Every decision area has an associated **Decision Area Detail Form**, which can be called by double-clicking on the label of the area wherever it appears.

Within this form, you can enter and edit various kinds of supporting information on the decision area, including the labels of two or more **decision options** to represent the range of choice within it; levels of **importance** and **urgency** for the decision area; and, optionally, a label for the **sector** of organisational responsibility within which it lies.

## Decision Graph

A **decision graph** is a graphical representation of a set of decision areas, some pairs of which may be **interconnected** by means of **decision links**. In STRAD 2, labelled ellipses are used to represent the decision areas, and straight lines to represent the links. The positions of decision areas can be altered with your mouse in order to make the underlying structure more clear. Decision areas which are currently outside the graph can be dragged into it, and those within can be dragged into an **ex graph** list.

## Decision Link

A **decision link** - referred to simply as a **link** when the context is clear - is a pairwise non-directed relationship between a pair of decision areas, reflecting a judgement that a different

outcome might possibly be arrived at if the two decision areas were considered together rather than separately.

A decision link may be either ***firm***, represented in STRAD by a bold connecting line on the decision graph, or ***uncertain***, represented by a thinner line. The relative thickness of the two types of link, and their colours, can be varied through the ***focus*** section of the *customise menu*.

## Decision Option

A **decision option** - usually referred to simply as an **option** where the context is clear - is any one of the feasible courses of action that can be considered within a decision area. STRAD allows the range of choice within a decision area to be represented by anywhere between two and six decision options. Each of these is identified by a **label** of up to 10 characters and also, if desired, by a longer **description**.

Where possible, decision options should be formulated so as to be ***mutually exclusive*** and at the same time to be as ***representative*** as possible of the full range of choice available. Where options cannot strictly be seen as mutually exclusive, they can often be expressed in terms of differing policy emphases, each of which could be expressed by a different policy statement of some kind.

## Decision Scheme

A **decision scheme** is a set of mutually compatible **options**, chosen one each from a set of interconnected **decision areas**. Each decision scheme therefore represents one solution to the problem of choosing a feasible set of options from a set of decision areas where some combinations are judged to be ***incompatible***.

The full set of decision schemes available for any particular set of decision areas is displayed by STRAD in the form of an **option tree** in the ***decision schemes window***, and comparisons can be made through the ***scheme assessment window***.

## Delay from Exploratory Options

When considering exploratory options in the uncertainty area detail form, STRAD enables you to enter visual estimates of the levels of **cost** and **delay** that are likely to be incurred. These can then be balanced against the expected benefit in terms of a **gain** in your level of confidence in your decisions - in other words, a reduction in the level of uncertainty which surrounds them.

## Designing Mode

The **designing mode** is one of the four basic modes of the strategic choice approach. It is supported in STRAD 2 through the procedures of the ***Compatibility*** and ***Schemes*** windows.

## Direction Labels

The **comparison area detail form** includes two fields in which you can enter labels for a **left direction** and a **right direction** in relation to that comparison area. These labels are then used to ***orientate*** the comparison area in the option assessment and scheme assessment windows, to give you bearings when placing your spot markers to reflect the differences between options and schemes.

You are advised to express your pair of direction labels in language which is *comparative*; *balanced*; and *explicit* in terms of the type of judgement which is to be made. For example, you



could choose *cheaper* versus *dearer* in relation to a cost comparison, or *less effective* versus *more effective* for an effectiveness comparison.

### Exclusion of Decision Schemes

Decision schemes can be tagged as **excluded** from the set which is under current consideration by first highlighting them in the **scheme assessment window** or **combined scheme assessment window**, using your left mouse button; then clicking on the **exclude** button at the foot of the window.

Wherever an excluded combination of options appears in the **schemes window** - either directly or as part of an extended scheme which also includes options from additional decision areas - it will then be marked with an **X**. A decision scheme may also be excluded through the **balance window**, where it compares unfavourably with another scheme.

By selecting **Cancel exclusions** from the **Show** menu in the **Schemes window**, you can cancel all existing exclusion tags, and proceed to exclude on a new basis if you wish.

### Exploratory Option

An **exploratory option** represents any proposed action designed to reduce the level of **prominence** of an **uncertainty area**. According to the **type** of uncertainty area concerned, this action may take the form of some kind of investigation, policy consultation or negotiation, whether formal or more informal in character.

Having identified one or more exploratory options, you can then compare them with the option of taking no action over that uncertainty area - and with each other - in terms of the criteria of **cost**, **delay** and **gain**. If you then judge that an exploratory option will be **resource-effective** in managing uncertainty, you can proceed to **lock** it, as an element of your **progress package**.

### Focus Window

The **Focus window** is one of the eight main *process windows* of STRAD; along with the **Overview window**, it supports the work of the **shaping** mode of the strategic choice approach. This window enables you to explore the interrelationships among your various **decision areas**, and to select a more compact **project focus** for the next stages of your work.

### Gain from Exploratory Options

When assessing possible exploratory options in the uncertainty area detail form, STRAD enables you to enter visual estimates of the levels of **cost** and **delay** that are likely to be incurred; these can then be balanced against your judgement of the expected benefit in terms of a **gain** in the level of confidence in your decisions - in other words, a reduction in the level of uncertainty which surrounds them.

### Impact Assessment

The procedure of impact assessment, as carried out in the main **assess window**, offers a preliminary step towards the more specific procedure of **option assessment**. It involves assessing whether the choice within any decision area will have a more or a less significant impact within a particular comparison area, without as yet considering the differences between particular options. This assessment is made by means of the mouse pointer, and serves as a means of identifying those particular combinations of decision areas and comparison areas in which more specific assessments of the differences between options are likely to be most worth while.

## Issue

An **issue** is any area of concern which is considered of relevance to your present project, and is therefore recorded on the initial **issue entry form**. In starting to use STRAD on a project, it is usual to begin listing issues in a brainstorming fashion, expressing each of them where possible in the form of either a **decision area**, a **comparison area** or an **uncertainty area**. However, where there is doubt over the appropriate classification, an issue can be stored temporarily in the **issue bank**, then classified at a later stage.

## Issue Bank

The **issue bank** is a temporary storage facility in the **issue entry form**, enabling you to store any issue where there is doubt as to how it is best classified. If you double-click with your left mouse button on any issue listed within the issue bank, its description and label will be brought up into the relevant fields within the issue entry form, where they can be edited if desired; the issue can then be classified into one of the three basic types of area if now possible.

## Issue Entry Form

The **issue entry form** is a form which can be called up within the **Overview window**, enabling you to enter descriptions and labels for any number of **issues of concern** in relation to your present project. You can then classify each issue that you generate as either a **decision area**, a **comparison area** or an **uncertainty area**; or you can defer that judgement by storing the issue in the **issue bank**. You can control whether or not you wish to view at this stage the full **area detail form** for each type of area, enabling you to enter further details if you wish.

## Locking Decision Options

Any **decision option** within a decision area can be switched to a **locked** state, indicating that this option has been selected in preference to any other which may be available. This means that the decision area is now no longer open; the question mark against its label now changes to an exclamation mark.

An option can be locked either directly through the **decision area detail form**; or through use of the **lock menu** in the **schemes window**; or, in the **progress window**, by dragging the decision area from the **future** to the **now** section and then selecting your preferred option. Similar procedures are available for **unlocking** a decision area that has already been locked.

## Locking Exploratory Options

Any exploratory option within an uncertainty area can be switched to a **locked** state, indicating that this exploratory option has been selected in preference to any other which may be available, and also in preference to the *nul option* of taking no action. This changes the question mark against the uncertainty area in question into an exclamation mark.

An exploratory option can be locked either directly through the **uncertainty area detail form** or, in the **progress window**, by dragging the uncertainty area from the **future** to the **now** section and then selecting your preferred option. Similar procedures exist for **unlocking** an uncertainty area that has already been locked.

## Notes

A **Notes** button is available on each of the **decision area detail**, **comparison area detail** and **uncertainty area detail** forms. By clicking on this button, you can call up a **Notes form** which

enables you to enter in text format any notes that you feel are worth recording about that area - or, in the case of a decision area or uncertainty area, about any particular decision options or exploratory options that you have entered.

Once any notes have been entered, the label on the button will change to **Notes** as an indication that some notes are on file which you may wish to read. You can also enter text notes at any time by selecting the **Notes** menu option in the main STRAD **file menu**.

### Option Assessment

The procedure of **option assessment** involves assessing the differences between **options** within the same **decision area** in relation to one **comparison area** at a time, using the **option assessment window**. These differences can be combined across decision areas and across comparison areas using one of the further procedures of **scheme assessment**, **combined option assessment** and **combined scheme assessment**.

### Option Bar

An **option bar** is an assumed relationship of **incompatibility** between two **options** from different **decision areas**. Option bars may be either *firm* - indicated by a cross **X** - or *uncertain* - indicated by a question mark **?**.

### Option Bar Reason

An **option bar reason** is a text entry recording the reasoning behind the exclusion of a particular combination of **options** from different **decision areas**. Option bar reasons can be recorded in a list within the **compatibility window**. The same combination of options may be excluded for more than one reason.

The set of combinations excluded for a particular reason may be selected for closer **study**, and reasons may be **suspended** if desired in order to increase the number of combinations available.

### Option Descriptions

Each **decision option** within a **decision area** must be described in terms of a brief label of up to 10 characters. However, if it is important to describe it in more detail than this limit allows, you can also add an option **description** of indefinite length. This can be done by clicking on the **descriptions** button in the **decision area detail form**, which expands the space available within the form to disclose an additional option descriptions field.

### Option Tree

An **option tree** is a branching format which is used in the **schemes window** to display the range of paths which is available to you through choosing sets of mutually compatible **options** from a selected set of **decision areas**.

The **Reconfigure menu** of the schemes window enables the sequence of decision areas to be altered, in order to display different structural features of the range of choice that is available. The **Show menu** in the decision schemes window includes an option enabling you to display the option tree in the alternative form of a straight **list**.

## Orientation of Comparison Areas

A comparison area is **orientated** as soon as left and right **direction labels** have been entered in the comparison area detail form, and an indication of a **preference** between these two directions has been entered.

The direction labels will subsequently appear in the **option assessment** and **scheme assessment** windows to help in assessing differences between options or schemes, while the preference indicator is used in combining option and scheme assessments.

## Overview Graph

The **Overview graph** displays a visual summary of the present status of your project. It appears in the centre of the **Overview window** whenever that window is opened while working on the project; or whenever you reopen an existing **project file**, so long as a particular *progress package* has not been *adopted*

The overview graph lists within a central circle the labels of all the **decision areas** which are currently **in focus** - unless there are too many to fit, in which case it reports the total *number* of decision areas in focus instead. Around this central circle appear the labels of all **uncertainty areas** which have so far been **classified**, positioned according to both their **UE, UV, UR** type and their relative level of **prominence**. The more prominent uncertainty areas appear closer to the central circle. Full explanations of the UE, UV and UR categories can be read by clicking on the respective label positions in the overview graph.

## Overview Window

The **Overview window** is one of the eight main *process windows* of STRAD; along with the **Focus window**, it supports the work of the **shaping** mode of the strategic choice approach. The Overview window gives you a quick summary of the current status of your project, in the form of an **overview graph** surrounded by full lists of the labels of all **decision areas**, **comparison areas** and **uncertainty areas**. More details of any of these areas may be read by double-clicking on its label.

## Pair Comparison

The **pair comparison** procedure within the **balance window** enables you to make a systematic assessment of the overall **balance of advantage** between any selected pair of **decision schemes** - or of **options** within a single **decision area**. It allows you to take into account all **comparison areas** which have so far been **orientated**, whether or not any assessments within them have already been made - and all identifiable **uncertainty areas** - whether or not they have already been recorded.

## Preference between Directions

Once left and right **direction labels** have been specified for a **comparison area**, it is possible to click on a button associated with one or other of them in the **comparison area detail form**, in order to specify which of the two directions is **preferred**. Until this is done, the comparison area cannot be taken into account in any of the **option assessment**, **scheme assessment** or **pair comparison** procedures.

## Progress Package

A **progress package** - as displayed in the **progress window** of STRAD 2 - is a package of proposals in which **decision options** may have been selected as a basis for action in some but not all **decision areas**, while **exploratory options** may have been selected as a means of

reducing the prominence of some but not all of the **uncertainty areas** which have a bearing on those decision areas still to be addressed in future.

### Progress Window

The **Progress window** is one of the eight main *process windows* of STRAD 2; along with the **Uncertainty window**, it supports the work of the **choosing** mode of the strategic choice approach. The Progress window allows you at any time to inspect your current state of progress towards decisions in the format of a **progress package**, and - when you are ready - to adopt that progress package as a basis for **commitment** or **recommendation**, or as a **strategic option** to be presented alongside other alternatives.

### Project File

A STRAD **project file** is a file containing all the latest information about any particular project or problem situation on which work has been originated by yourself or other STRAD users. All STRAD 2 project files end with the suffix **.prj**. Files originated when working with STRAD 1 (known as *problem* files) can be converted to the project file format of STRAD 2 using a **file conversion procedure**.

### Project Focus

A **project focus** is a more compact set of **decision areas** which has been selected for closer examination, from amongst the full set of decision areas that has been generated for a project. The selection of such a focus is supported by various procedures available within the **Focus window**. In the **overview window** and also in the **progress window**, the in-focus decision areas are distinguished by a light green background to their labels. The total number of decision areas in focus - or the list of labels if there is enough space - is displayed within the central circle of the overview window.

### Prominence of Uncertainty Areas

The **prominence** of an **uncertainty area** is a property which indicates the level of impact it is judged to have on the **decision areas** currently **in focus**, relative to other uncertainty areas. If you change your current focus of concern - and in particular if you have narrowed that focus down to a **pair comparison** - then it is important that your judgement of the relative prominence of different uncertainty areas should be reassessed.

### Range Markers

A pair of **range markers** is used to represent the range of uncertainty associated with the estimate of the position of a particular **decision option** or **decision scheme** within an assessment window. The range markers are represented as red arrows symmetrically placed on either side of the blue **spot marker**. Their positions can be altered by dragging either range marker inwards or outwards using the left mouse button.

*Technical note: If you think of the range of uncertainty over an option or scheme position as being represented by a normal probability distribution curve, you can think of the range markers as representing 2 sigma points on that curve. Whenever range marker positions are aggregated for the purpose of estimating scheme assessments, combined option or scheme assessments or pair comparisons, the formula used is based on the square root of the sum of squares.*

## Released Schemes

A **released scheme** - marked with a letter **R** in the **schemes window** - is a decision scheme which is only made available because of the temporary **suspension** of all option bars which are due solely to a particular **option bar reason** which has been registered in the **compatibility window**.

## Risk Marker

A movable **risk marker** appears in the **Balance window** to enable you to set the level of risk that is acceptable to you of discarding a decision scheme or option because there is another alternative which is clearly preferable to it

## Scheme Assessment

The procedure of **scheme assessment** involves assessing the differences between **decision schemes** over a selected set of decision areas in relation to one **comparison area** at a time, using the **scheme assessment window**.

STRAD will estimate these differences taking into account any **option assessments** that have already been made for any of these decision areas. You can adjust the assessment for any scheme by altering the positions of the **spot markers** and **range markers** as required.

## Schemes Window

The **Schemes window** is one of the eight main *process windows* of STRAD 2; along with the **Compatibility window**, it supports the work of the **designing** mode of the strategic choice approach.

The schemes window displays, in the form of an **option tree**, the full range of strategies or decision schemes which is available to you within your current project focus. The window enables you to rearrange your decision areas into a different sequence if desired, and - when you are ready - to select and lock particular options in the earlier decision areas within your chosen sequence.

## Sectors of Responsibility

Any **decision area** or **uncertainty area** can be assigned to a particular **sector** of organizational responsibility; according to the context of your project, this may be either an individual, a group or department, or a separate organization within a set of collaborating organizations. The sector label is assigned through the **decision area detail window** or the **uncertainty area detail window** as the case may be.

All decision areas and uncertainty areas will then appear sorted by sector in the **progress window**. In the **focus window**, different background colours may be assigned to different sectors through use of the Customise menu, so as to help in the choice of a **project focus**.

## Shaping Mode

The **Shaping mode** is one of the four basic modes of the strategic choice approach. It is supported in STRAD 2 through the procedures of the **Overview** and **Focus** windows.

## Spot Markers

A blue **spot marker** is used to represent the expected position of any **option** within a **decision area**, or of any **decision scheme** in the **option assessment** or **scheme assessment** window. Its position may be changed by clicking with the left mouse button in any other position on the strip corresponding to that particular option or scheme.

## Suspending Bar Reasons

Where the range of feasible **decision schemes** is restricted, one or more of the **option bar reasons** which was registered in the option compatibility window may be temporarily **suspended**. Any option bars which no longer apply will then be marked with a letter **S** instead of an **X** in the **compatibility window**, while any additional decision schemes which are now **released** will be marked with a letter **R** in the **schemes window**.

## Tractability of Uncertainty Areas

The **tractability** of an **uncertainty area** is an indicator representing a judgement as to how feasible it would be to take some action which would reduce the **prominence** of that uncertainty area. An uncertainty area of high tractability is one where it is easy to conceive of ways of reducing its prominence very substantially; while one of low tractability is one where no action can be conceived which would have any significant impact on its prominence.

The tractability of an uncertainty area can be assessed in the **uncertainty area detail window**, where it appears as an arrow acting to reduce its prominence level to some degree. This attribute is used as a broad guide to considering whether there might be any **exploratory option** which could bring a **gain** in confidence in decision-making at acceptable levels of **cost** and **delay**.

## UE Type of Uncertainty

**UE** stands for **Uncertainty** concerning the external **Environment** in which you are working; it is one of the three basic categories of uncertainty in the strategic choice approach. Uncertainties of type UE call for a broadly **technical** response, in the shape of some kind of *investigative* action: for example, some form of research, estimation, survey, forecasting, analysis, modelling....

## Uncertainty Area

Any area of doubt or disagreement which gets in the way of the decisions with which you are concerned can be expressed as an **uncertainty area**.

The strategic choice approach recognises three broad classes of uncertainty area: *Uncertainties concerning the working Environment (UE)* which call for a broadly *technical* response; *Uncertainties concerning guiding Values (UV)* which call for a broadly *political* response; and *Uncertainties concerning Related agendas of choice (UR)* which call for a broadly *negotiative* response. When building an initial **issue list** for your project, it is usually advisable to express areas of choice which are largely under the control of others as uncertainty areas of type **UR** rather than decision areas, and areas of potential dispute over objectives as uncertainty areas of type **UV**.

## Uncertainty Area Detail Form

Every uncertainty area has an associated **Uncertainty area detail form**, which can be called by double-clicking on the label of the area wherever it appears.

Within this form, you can enter and edit various kinds of supporting information on the uncertainty area, including your assessment of its **type** within the **UE/UV/UR** classification;

levels of **prominence** and **tractability**; information on any **exploratory options** to be considered in order to reduce its level of prominence; and, optionally, a label for the relevant **sector** of organizational responsibility.

### Uncertainty Graph

The uncertainty graph within the **Uncertainty window** presents a visual impression of the full set of uncertainty areas which have been classified in terms of the **UE, UV and UR categories**, and their relative **prominence** in relation to the current focus of decision. The label of each uncertainty area appears when the mouse pointer is over it, and it can be dragged to a new position on the graph if desired.

### Uncertainty Window

The **Uncertainty window** is one of the eight main *process windows* of STRAD 2; along with the **Progress window**, it supports the work of the **choosing** mode of the strategic choice approach. The Uncertainty window allows you to view all your uncertainty areas within the same decision-centred perspective, and to develop a strategy to respond to your most prominent of them through a resource-effective choice of **exploratory options**.

### Units of Measurement

**Units of measurement** can be defined for any comparison area through the **Comparison area detail form**. They can then be used in **calibrating**, in numerical terms, the scale used in **option** and **scheme assessment** for that comparison area.

You are advised to introduce units of measurement for comparison areas only where externally recognised units already exist - such as monetary units or percentage indicators. In other cases, STRAD enables you to work with visual scales, adjusting the weightings between these if you wish in order to accord with the values guiding your decision process.

### UR Type of Uncertainty

**UR** stands for **Uncertainty concerning Related agendas** of choice, beyond the agenda of current concern to you and those with whom you are working. It is one of the three basic categories of uncertainty in the strategic choice approach. Uncertainties of type UR call for a broadly **negotiative** response, in the shape of some kind of coordination, liaison or joint planning, generally involving other decision-makers....

### UV: Uncertainty concerning Guiding Values

**UV** stands for **Uncertainty concerning the Values** which should guide your decision process. It is one of the three basic categories of uncertainty in the strategic choice approach. Uncertainties of type UV call for a broadly **political** response: for example, clarification of goals or objectives, discussions with constituents or stakeholders, reconciliation of conflicting views...



