Land Resources Planning (LRP) Toolbox User's Guide

The LRP Toolbox is a freely accessible online source for a range of stakeholders, directly or indirectly involved in land use planning (planners, policy makers, governments, institutions, communities, technical specialists, etc.). The Toolbox contains summaries and links for a comprehensive number of land resource planning tools and approaches developed by FAO and other institutions. The overall goal of the Toolbox is to make potential users aware of the existence of these tools, facilitate access to their information, and assist with the selection of those tools that meet the requirements of different stakeholders, operating at different levels, regions, and sectors.

To complete and improve this endeavour, a survey on "Review and evaluation of participatory land use/ resource planning tools" was globally implemented by the Land and Water Division with around 750 different stakeholders submitting their experiences. Through this process opportunities and gaps in the use of tools were identified showing the way forward for further development on land resources planning. A range of new tools proposed by survey's participants enriched the already existing long list of tools. The outcomes of the survey and the Land Resources Planning Toolbox are reported in the Land and Water Division Working Paper 14 "Land resources planning for sustainable land management" (http://www.fao.org/3/a-i5937e.pdf).

This guide will walk you through the way the Toolbox works and presents the key features in order to support the selection of those tools that best meet your needs.

For any questions, please contact us at LRP-Secretariat@fao.org; feras.ziadat@fao.org; theodora.fetsi@fao.org

Motivation for developing a "LRP Toolbox"

There is a growing recognition that due consideration must be given to the complex interactions between the human and natural environment components in order to help decision-makers at national, sub-national and local levels, in adopting long-term sustainable land resource planning and management. The classical approaches to land evaluation and land use planning are no longer considered sufficient to address the growing demands for stakeholder-responsive and sustainable land use planning. In response to this gap, new tools and approaches have been developed over the last few decades, which the LRP Toolbox aims to present and assist different stakeholders with finding the most appropriate ones.

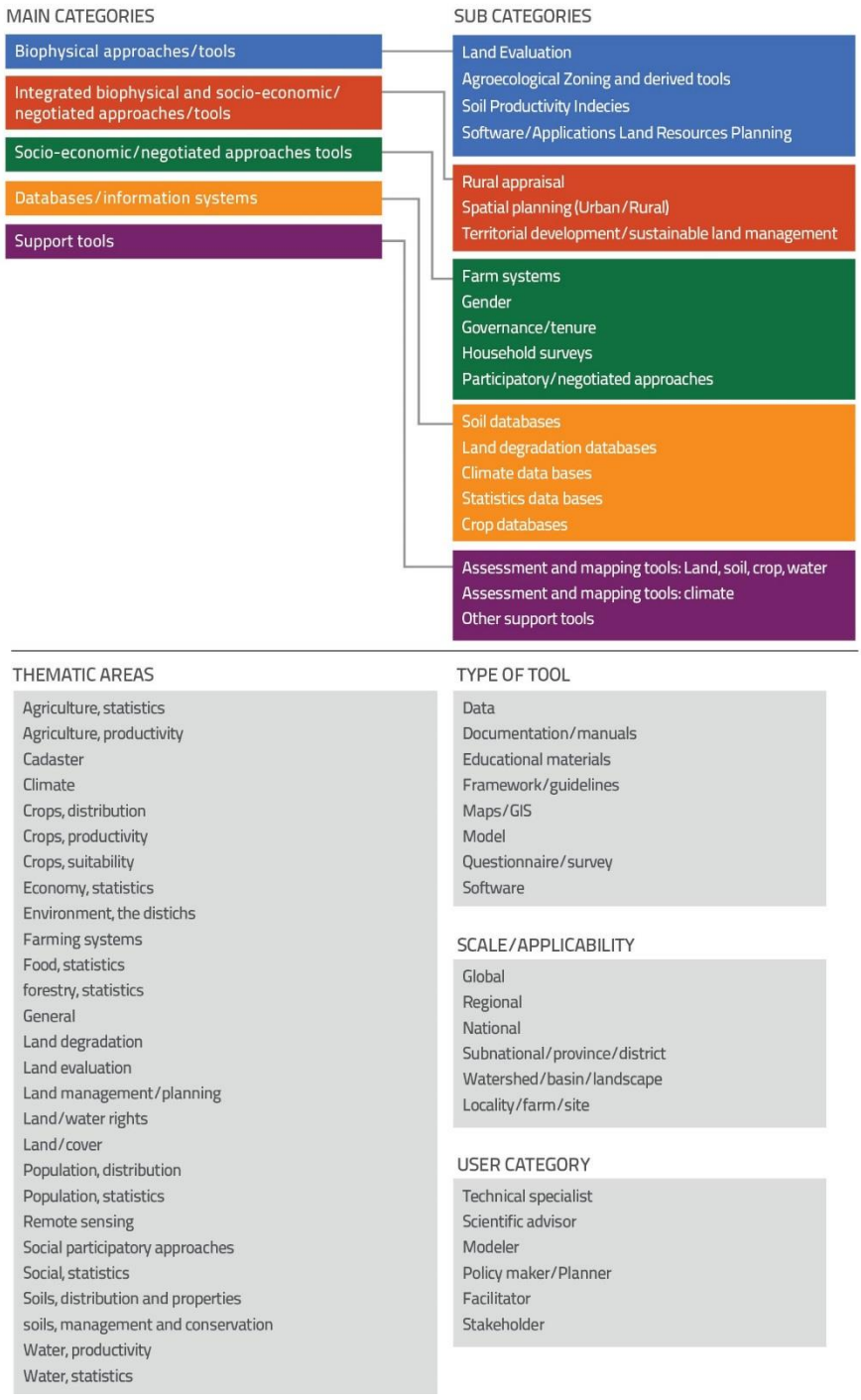
Key features and content of the LRP Toolbox

The LRP Toolbox is intended to provide answers to the questions: what tools are available, what are their capabilities and limitations, for which stakeholders, regions and scales of planning are they suitable?

The Toolbox includes a description of each individual land resource planning tool. The tools featured in the Toolbox are grouped into five main categories that encompass different thematic domains in the land use planning process. The overall structure and content of the LRP Toolbox is presented in figure (1).

Figure 1

Structure and content of the Land Resources Planning Toolbox

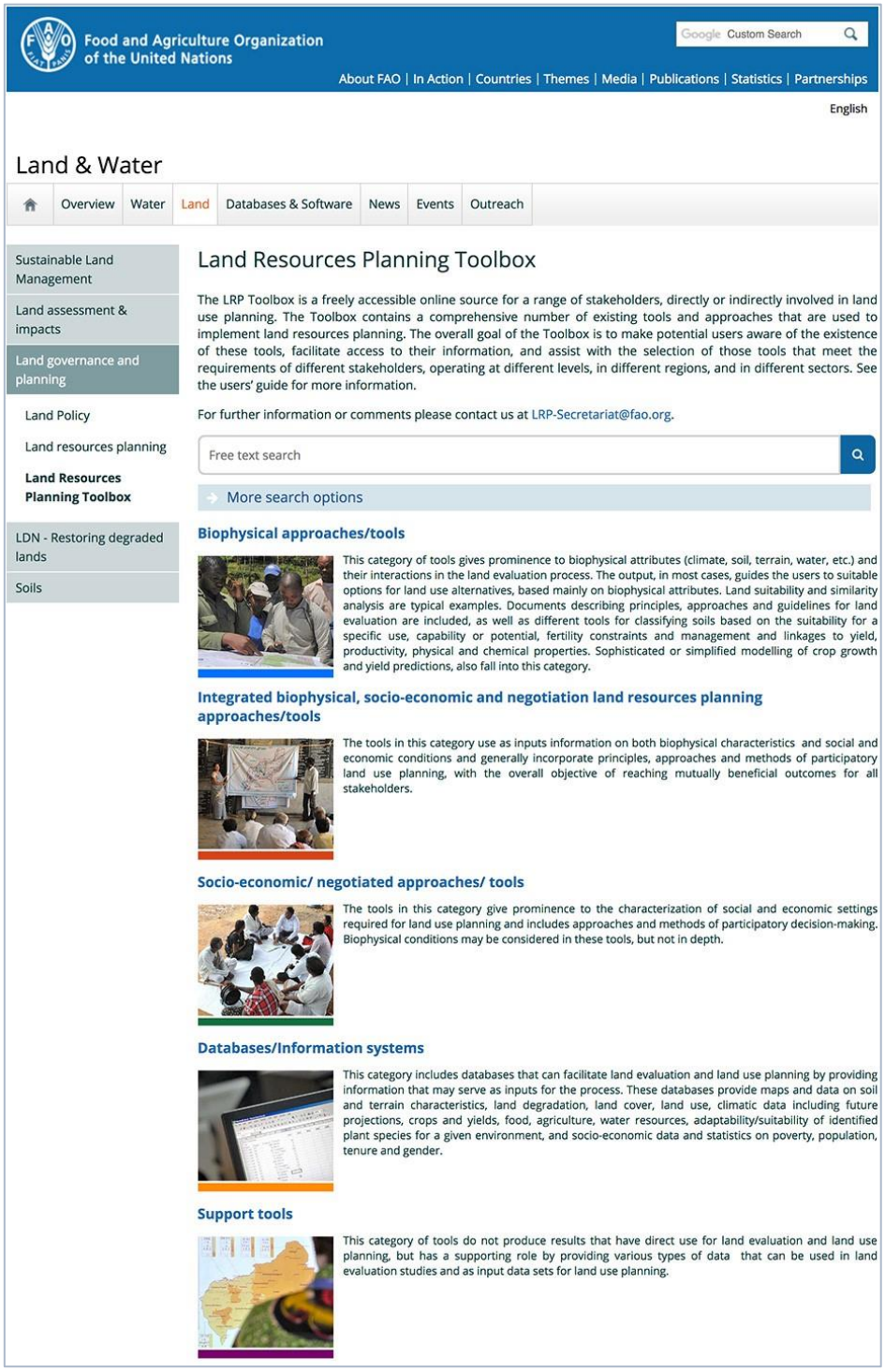


Main categories: the main categories in the Toolbox are (Figure 2):

- Biophysical approaches/ tools
- Socio-economic and negotiation approaches/tools
- Integrated biophysical , socio-economic and negotiation approaches/tools
- Databases/Information systems
- Support tools

Figure 2

Homepage and main categories of the FAO LRP Toolbox



Biophysical approaches/tools give prominence to biophysical attributes (climate, soil, terrain, water, etc.) and their interactions in the land evaluation process (Figure 3). The output, in most cases, guides the users to suitable options for land use alternatives, based mainly on biophysical attributes. Land suitability and similarity analysis are typical examples. Documents describing principles, approaches and guidelines for land evaluation are included, as well as different tools for classifying soils based on the suitability for a specific use, capability or potential, fertility constraints and management and linkages to yield, productivity, physical and chemical properties. Sophisticated or simplified modelling of crop growth and yield predictions, also fall into this category.

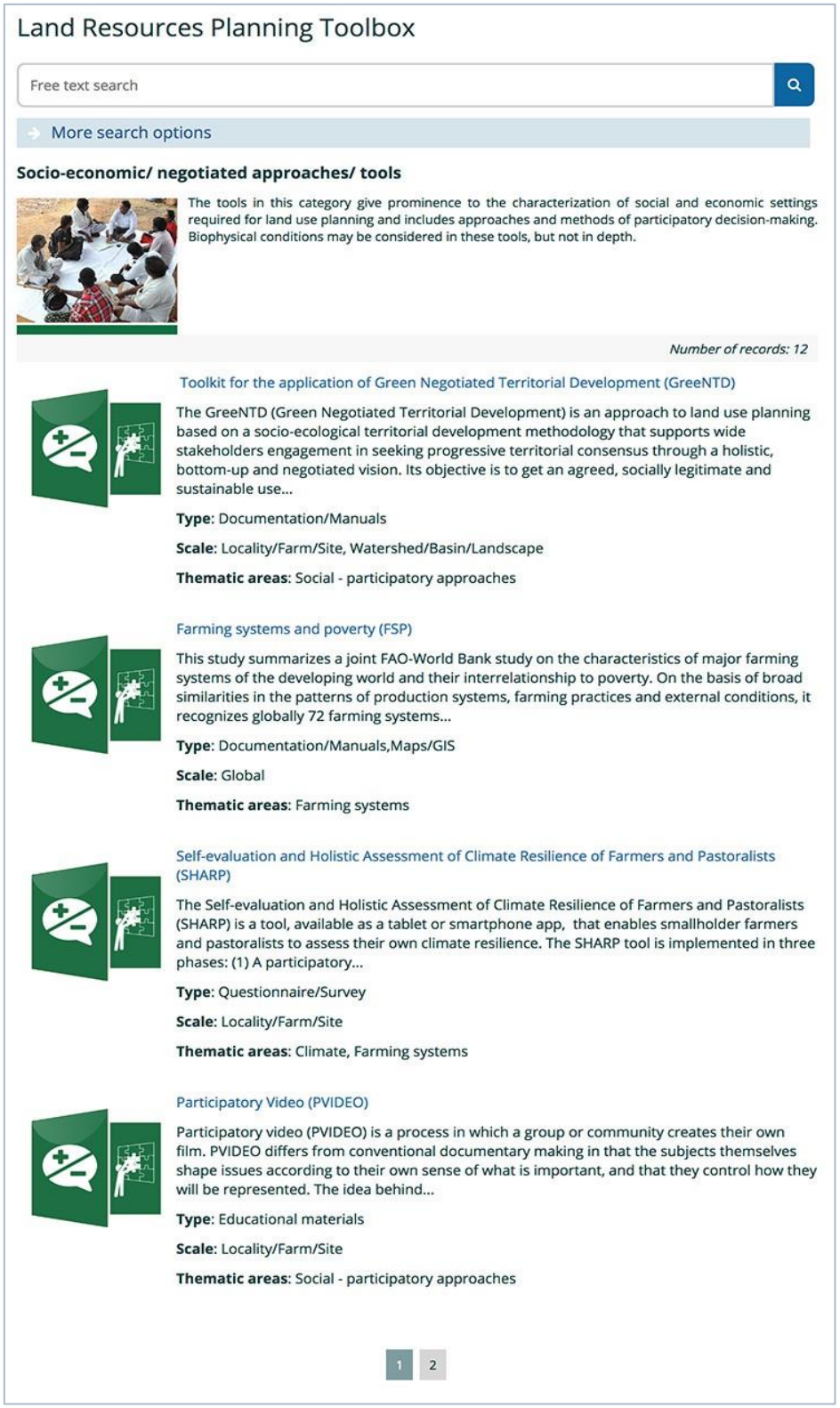
Figure 3

Biophysical approaches/tools

Socio-economic and negotiation approaches/tools (Figure 4) cover aspects of the human environment (farming systems, tenure, aspects of participatory planning etc.). The tools in this category give prominence to the characterization of social and economic settings required for land use planning and includes approaches and methods of participatory decision-making. Biophysical conditions may be considered in these tools, but not in depth.

Figure 4

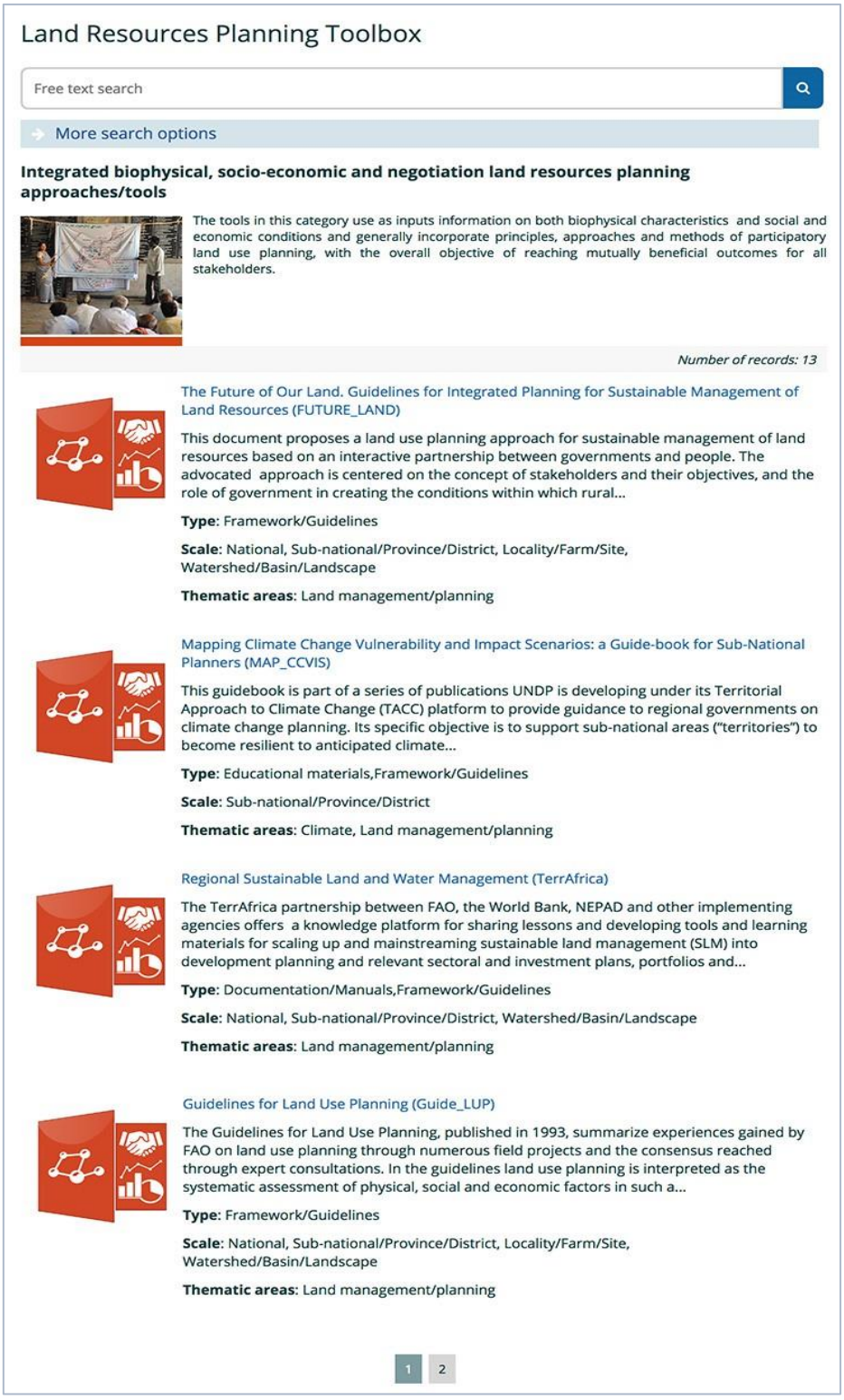
Socio-economic/ negotiated tools and approaches



Integrated biophysical, socio-economic and negotiation approaches/tools make joint use of data and methods applied in both biophysical and socio-economic spheres following a participatory and negotiated approach (Figure 5). The tools in this category use as inputs information on both biophysical characteristics and social and economic conditions and generally incorporate principles, approaches and methods of participatory land use planning, with the overall objective of reaching mutually beneficial outcomes for all stakeholders.

Figure 5

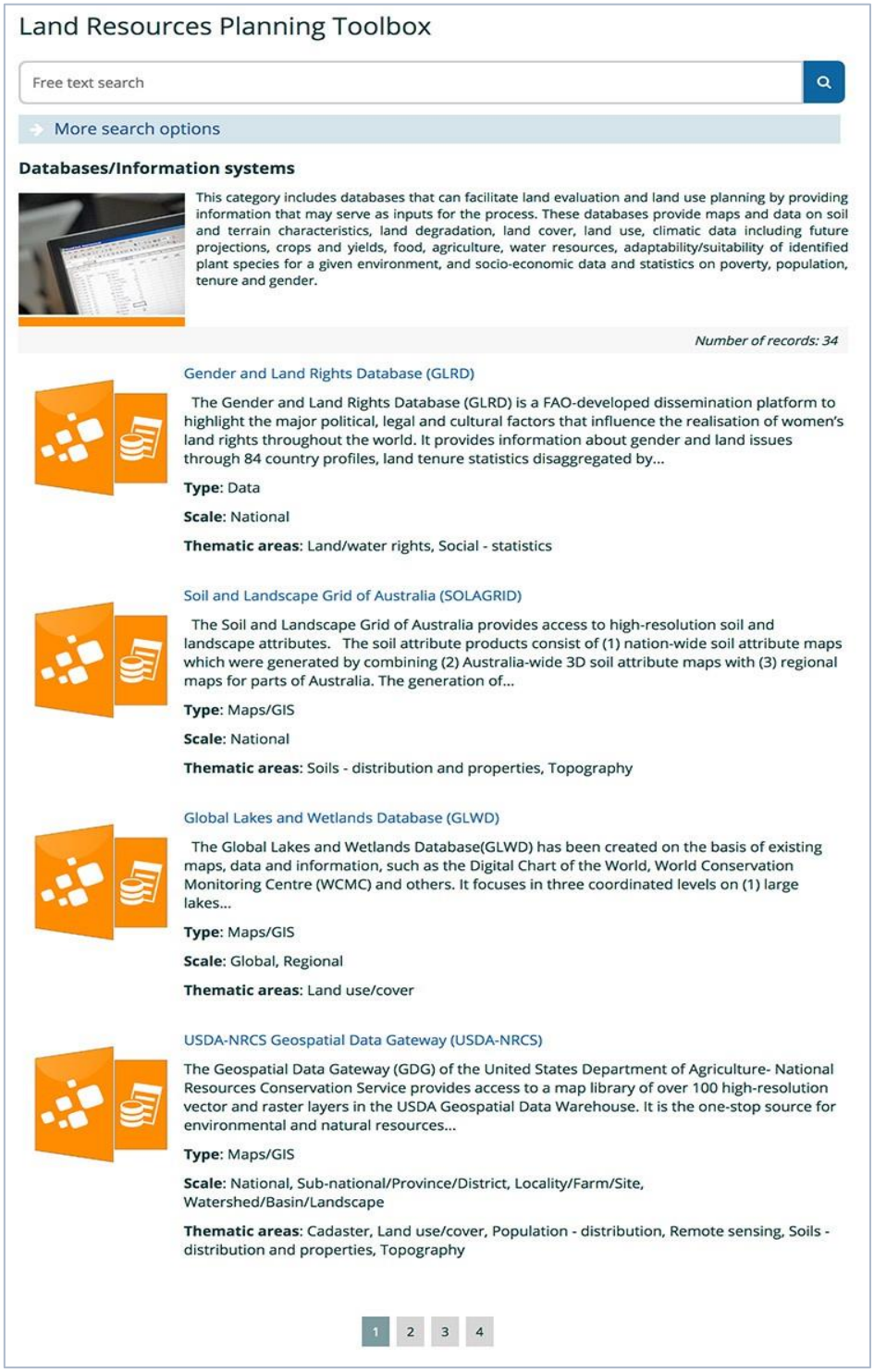
Integrated biophysical, socio-economic and negotiated tools and approaches



The category **"Databases/ Information systems"** includes tools that can facilitate land evaluation and land use planning by providing data and information that may serve as inputs for the process (Figure 6). These databases provide maps and data on soil and terrain characteristics, land degradation, land cover, land use, climatic data including future projections, crops and yields, food, agriculture, water resources, adaptability/suitability of identified plant species for a given environment, and socio-economic data and statistics on poverty, population, tenure and gender.

Figure 6

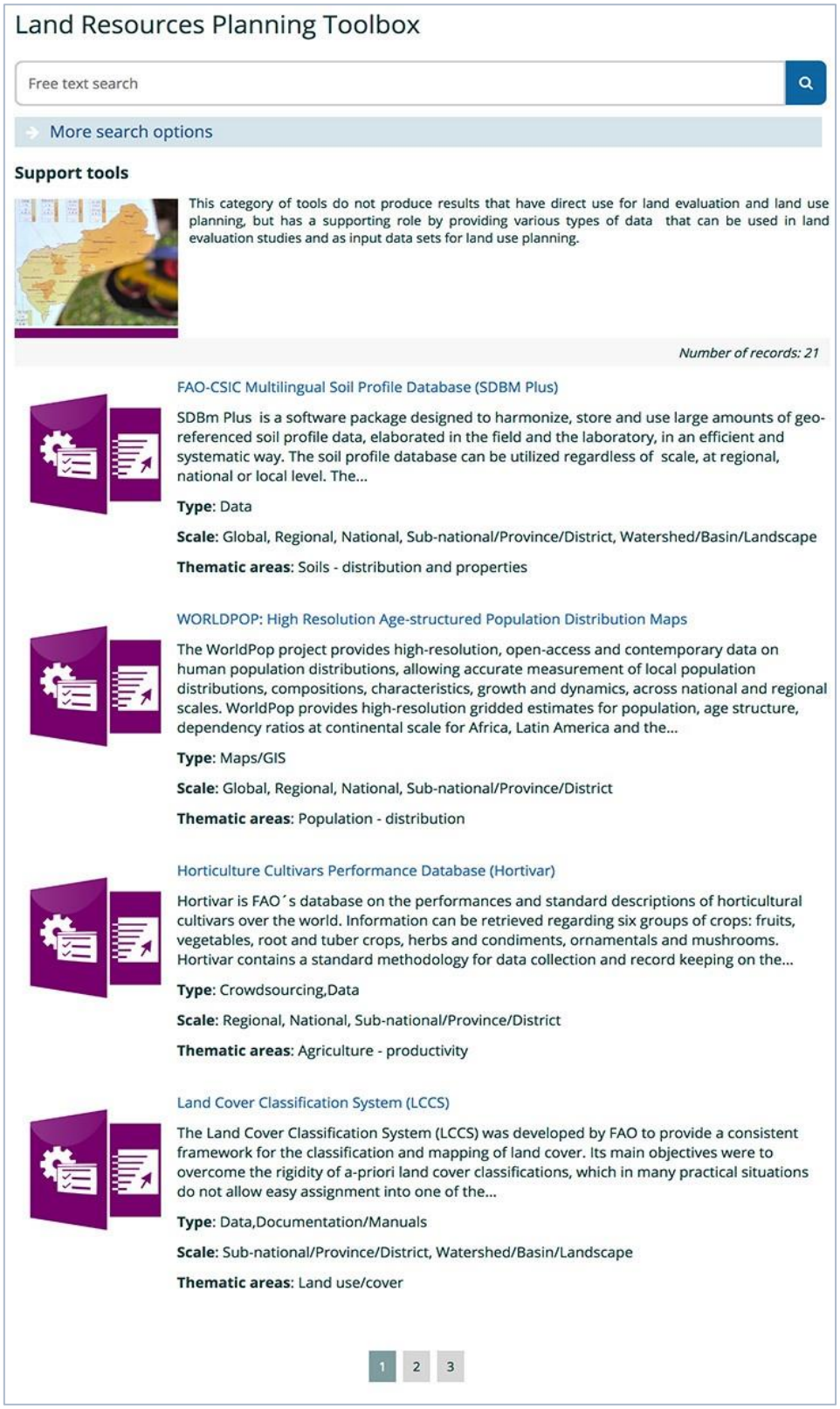
Databases/Information Systems



The **support tools** do not produce results that have direct use for land evaluation and land use planning, but has a supporting role by providing various types of information that can be used in land evaluation studies and as input data sets for land use planning (Figure 7).

Figure 7

Support tools



Sub-categories: each main category is subdivided into sub-categories, according to the similarity in information content (Figure 1). Characteristic for the sub-categories is that they belong exclusively to one main category, but not to another. For example, the main category 'Biophysical approaches/tools' has sub-categories: (1) Land evaluation; (2) Agroecological zoning and derived tools; (3) Soil productivity indices; (4) Software/ applications for land resource planning, which are not shared with other main categories. The same restriction on choice of sub-categories applies to the other main categories.

Thematic area, types of tool, scale and user category: the tools are further characterized in terms of thematic area, type of tool, scale and applicability and user category (Figure 1). The "thematic areas" classifies the tools according to their main focus under broad classes. However, most of the tools are often covering more than one theme and are multi-disciplinary in nature; the users can identify more than one thematic area to search for appropriate tool(s). The "Type of tool" classifies the tools according the nature of the published material that the users can access and use. Some tools are published in different formats and the users could be interested in certain format of tools for the application at hand. The "scale/applicability" classification shows the different spatial scales under which the tool is expected to be most useful and relevant. This is based on the nature of the tool and, in some cases, on the original scale under which the tool was developed. The "user category" defines the target group for which each tool is suitable.

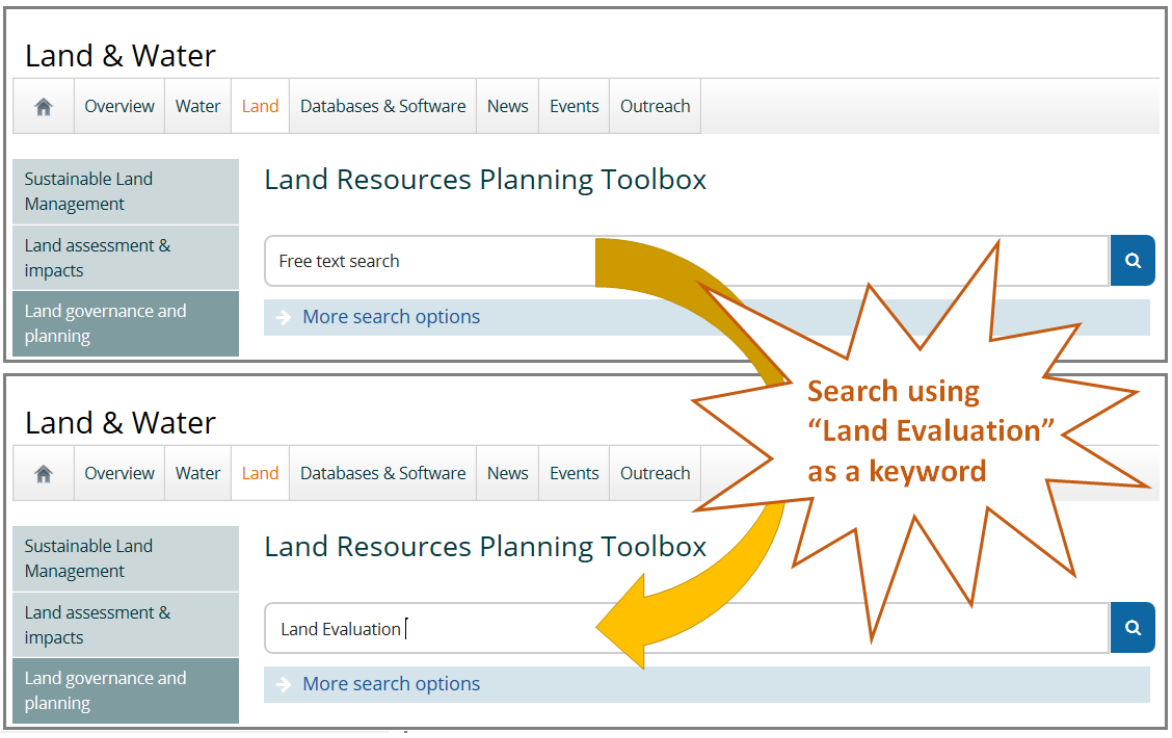
How to use the Toolbox?

The LRP Toolbox provide an up-to-date inventory of tools, approaches, databases and support tools available for various stakeholders working on land use planning related fields. The aim is to assist decision makers at different levels to choose and access the tool(s) that best fit their demands and capable of supporting planning needs for a specific case under consideration.

The Toolbox offers two **search options** to help users find the tools most relevant to their needs, the **free search** and the **guided search**. The **free search engine** uses keywords (for example, the tool acronym) to retrieve results of all toolbox content and is available on the Toolbox homepage (Figure 8).

Figure 8

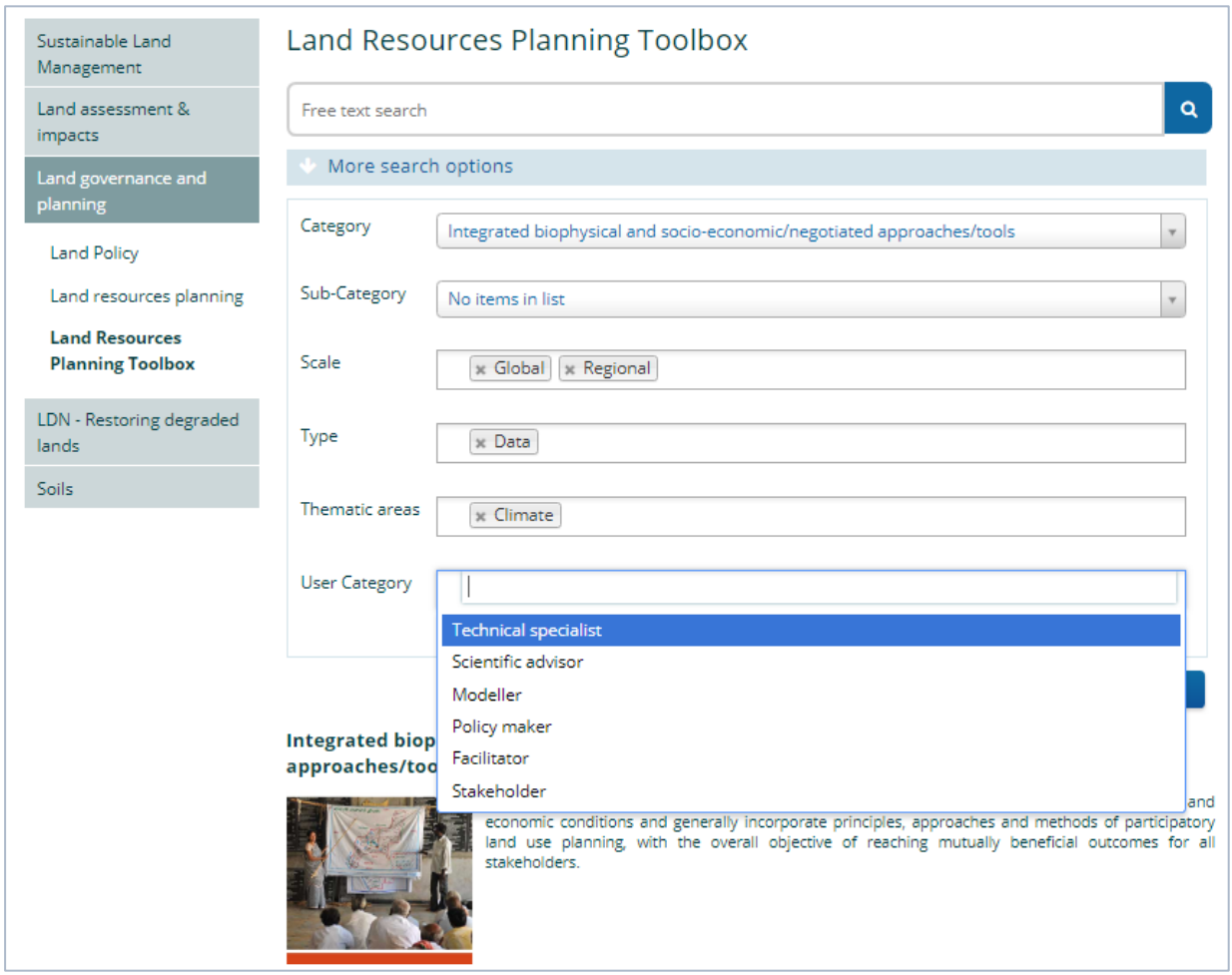
Free search using key words



The **guided search function** (Figure 9) allows the user to access tools selected through the following filters, which may be individually selected or using combination of the five groups: main category, subcategory, tool type, scale and thematic areas. The filters 'Main category' and 'Sub-category' allow the selection of only one option, the filters 'Scale', 'Type', 'Thematic area' and user category allow the simultaneous selection of several options. As a general recommendation to use the Toolbox, the user can start with broad selection of the search options to explore available tools and gradually narrow down the selection to find the most relevant tool(s). The detailed content of the categories, sub-categories, thematic areas, scale of applicability and, type of tools are listed in Figure 1.

Figure 9

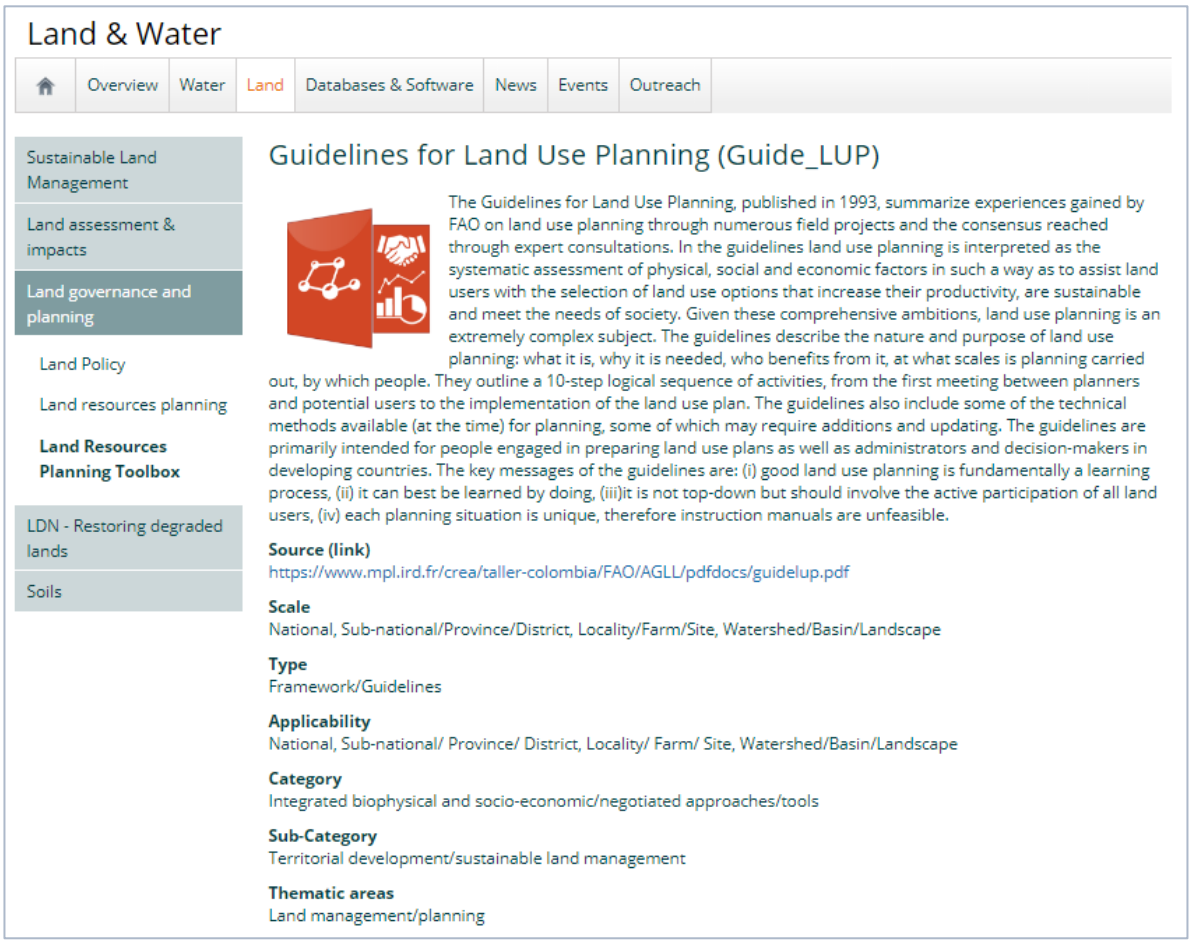
Guided search function



Description of tools: After scrolling through the retrieved selection, the full description is provided for a specific tool when the user clicks the tool's title (Figure 10). At least one link is provided for direct access to the specific tool or its documentation. Further guidance may be provided through additional links in the main text that allow access to more detailed information on specific topics. The information provided for each tool assist the user to explore the main features of the tool and for which cases the tool can be used, together with further information to download or access the tool and links to provide further information, applications or case studies about the tool. The user can use the tool and the information provided or go back to search again for additional tools.

Figure 10

Example of content at record level



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