

APPENDIX 1

GLOSSARY OF TERMS

AKT – Agroecological Knowledge Toolkit – the name of the methodology and software.

Artificial intelligence: A field of computer science in which machines are developed and programmed to act as a human brain.

Automated reasoning: Where a machine (computer) systematically processes statements using rules of inference.

Boolean search: A search mechanism for retrieving statements containing particular keywords. Any combination of keywords may be defined using 'and' and 'or' operators.

Consultant: Those from the local community co-operating with the researcher building up the knowledge base.

Control structure: Program segments within AKT which control when and upon what knowledge the primitives are used.

Data: A set of observations, may be quantitative or qualitative.

Domain: Subject, or topic area under consideration.

Ecological knowledge: Knowledge about organisms, interactions amongst organisms and between them and their environment.

Explanatory knowledge: Knowledge providing an explanation of phenomena.

Emic: Internally generated explanation of phenomena (i.e. from within the affected community)

Etic: Externally generated explanation of phenomena (i.e. from outside the affected community)

Expert: The local farmer recognised as an authority in a particular aspect of the local farming system.

Formal Term: The key components that make up the unitary statements in the formal language. All words entered into the unitary statements that do not belong to the formal grammar are formal terms.

Generic: Describes something applicable or referring to a whole class or group.

Hierarchy: Classification of objects whereby all objects under a higher level object share all its attributes.

Indigenous Knowledge: Local knowledge which has been modified by the incorporation of cultural/religious beliefs and values.

Informant: The interviewee from the local community who has supplied a particular piece of knowledge.

Inheritance: Objects in a classificatory hierarchy sharing properties of higher level objects.

Input parameter: A parameter where the primitive or tool expects the parameter to be specified before starting the tool.

Instantiate: To assign a value to a variable.

Iterative: Repetitive

Knowledge: The outcome, independently of interpreter, of the interpretation of data/information.

Knowledge acquisition: Process of knowledge elicitation and representation

Knowledge base: An articulated and defined set of knowledge stored on a computer which can be accessed and processed systematically.

Knowledge-based system: The combination of a knowledge base/set of knowledge bases and knowledge-based system software.

Knowledge elicitation: Articulating knowledge for the purpose of abstraction and representation in a knowledge base.

Link: In a diagram interface the link links two nodes together. In causal statements the link is either **causes1way** or **causes2way**. In link statements the link is defined by the user.

Local Knowledge: Knowledge based on locally derived understanding, formed by experience and observation.

Node: These appear in the diagram interface. A node represents either an object, a process, an action or an attribute of an object, process or action. There are two nodes in a causal statement, linked by the reserved terms **causes1way** or **causes2way**. In a link statement the two nodes are linked by a user defined link.

Output parameter: A parameter where the primitive or tool determines the value and returns this value as the output at completion of the tool.

Parsimonious: Restricting formal terms used in the knowledge base to the minimum possible, without losing the meaning of the knowledge captured.

Primitive: Small program segments within AKT employed for running a tool.

Prolog (WinProlog): An artificial intelligence programming language used for developing AKT software.

Scientific knowledge: Knowledge generated in a formal manner by universities, research and other institutions.

Task language: A dedicated procedural programming environment in AKT software which allows users to build tools or programmes using primitives and control structures to interrogate a knowledge base.

Tool: A small computer program, either supplied with AKT software or developed by the user using primitives, control structures and pre-existing tools for interrogation and reasoning with a knowledge base.

Tractable: Easily managed, malleable

Unitary Statement: The smallest useful unit of knowledge which can stand alone without reference to other statements to be comprehensible.

WinAKT: Windows version of the Agroforestry Knowledge Toolkit (the former name of AKT)