

*Demo  
prepared by :*



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*WELCOME  
to  
The Land Use Database :*

*Demo-6 :  
Land Use Data : Part 2*

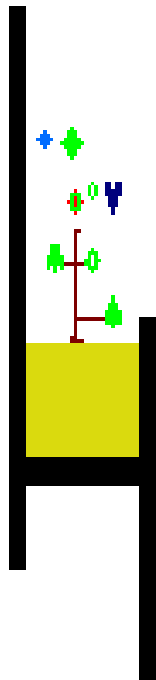
# ***Shown is how to enter Operations and Observations (4<sup>th</sup> level only)***

**Emphasis is put on the following software aspects :**

- 1 The Operations and Observation Picklist.**
- 2 The Data Entry Screens for Operation Data.**
- 3 The Data Entry Screens for Observation Data.**
- 4 Links regarding Species / Services - Products / Benefits.**

First of all, select the **Data Entry** option of the **Main Menu**.

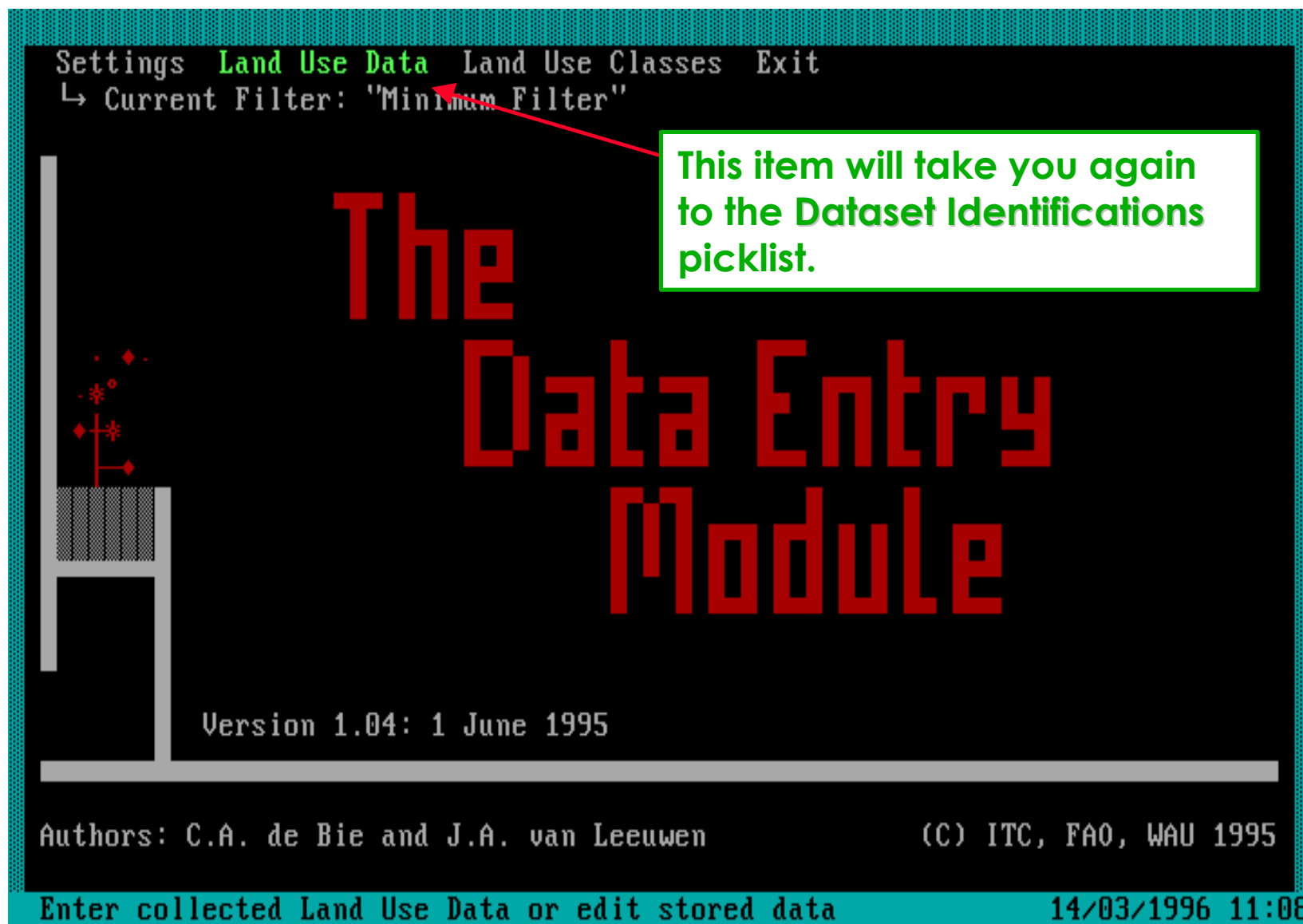
# The Land Use Database



«Select a Module»

Glossary	-	Glossary; Filters; Repair; Backup/Restore
Data Entry	-	Land Use Data; Land Use Classes; Settings
Query	-	Search, Retrieve and Export stored Data
Exit <Esc>	-	Return to the Operating System

Then, select the *Land Use Data* item of the *Data Entry Menu* . . .



Level 1

Then select an existing *Dataset Identification* from the picklist . . .

```
«Dataset Identifications»  
FAO, BOT/91/001 ▶ No:1 ▶ a, Botswana, Central, Palapye, Ratholo, Serulapye »  
FAO, BOT/91/001 ▶ No:2 ▶ a, Botswana, Central, Palapye, Ratholo, Serulapye »  
FAO, BOT/91/001 ▶ No:9 ▶ a, Botswana, Central, Palapye, Ratholo, Serulapye »  
FAO, BOT/91/001 ▶ No:3 ▶ , Botswana, Central, Palapye, Ratholo, Maipaafela »  
FAO, BOT/91/001 ▶ No:23 ▶ Botswana, Central, Palapye, Ratholo, Maipaafela »
```

Level 2

Depending on the Dataset Structure (see next page) :

select next a *Site Identification* from the displayed picklist . . .

```
«1. | FAO, BOT/91/001 ▶ No:1 ▶ Botswana, Central, Palapye, Ratholo, Serulapye »  
«2. | Site Identifications»  
No:1 ▶ Each LUS Description is valid for one Plot »  
«1»
```

Level 3

Depending on the Dataset Structure (see next page) :

and last of all, select an existing *Land Use System Description* .

```
«1. | FAO, BOT/91/001 ▶ No:1 ▶ Botswana, Central, Palapye, Ratholo, Serulapye »  
«2. | No:1 ▶ Each LUS Description is valid for one Plot »  
«3. | Land Use System Descriptions»  
No:1 ▶ **/11/1992 - **/11/1993 ▶ FAO-Test, Mixed-Intercr.of Cereal+Pukin/Melon »  
«1»
```

Depending on the Dataset Structure

refers to the selected Dataset Structure in Settings.

L1 L2 L3 L4

1 : x : x : x

1 : x : 1 : x

1 : 1 : x : x

1 : 1 : 1 : x

In Demo 5 it was shown that the first 3 Levels can relate to each other in 4 different ways.

... and thus, you arrive at the *Operations and Observations* picklist.

```
«1. FAO, BOT/91/001 ▶ No:1 ▶ Botswana, Central, Palapye, Ratholo, Serulapye »
«2. No:1 ▶ Each LUS Description is valid for one Plot »
«3. No:1 ▶ **/11/1992 - **/11/1993 ▶ FAO-Test, Mixed-Intercr.of Cereal+Pukin»
«4. Operations and Observations»
```

```
«Operations»
```

```
**/11/1992 - **/01/1993 Fallow Grazing
04/01/1993 - 08/01/1993 lanting, Se./Pl. without Pattern, Broadcasted Seeding
04/01/1993 - 08/01/1993 Tillage, Ploughing, Along Contours (or Flat), » -
07/02/1993 - 21/02/1993 ry Production Related, Crop Maintenance, Weeding, » -
**/05/1993 - **/11/1993 Fallow Grazing
**/05/1993 - **/05/1993 Primary Production Related, Harvesting, Picking
```

```
«Observations»
```

```
**/04/1993 - **/05/1993 Reducing Factors, Infectious Plant Related, Livestock
```

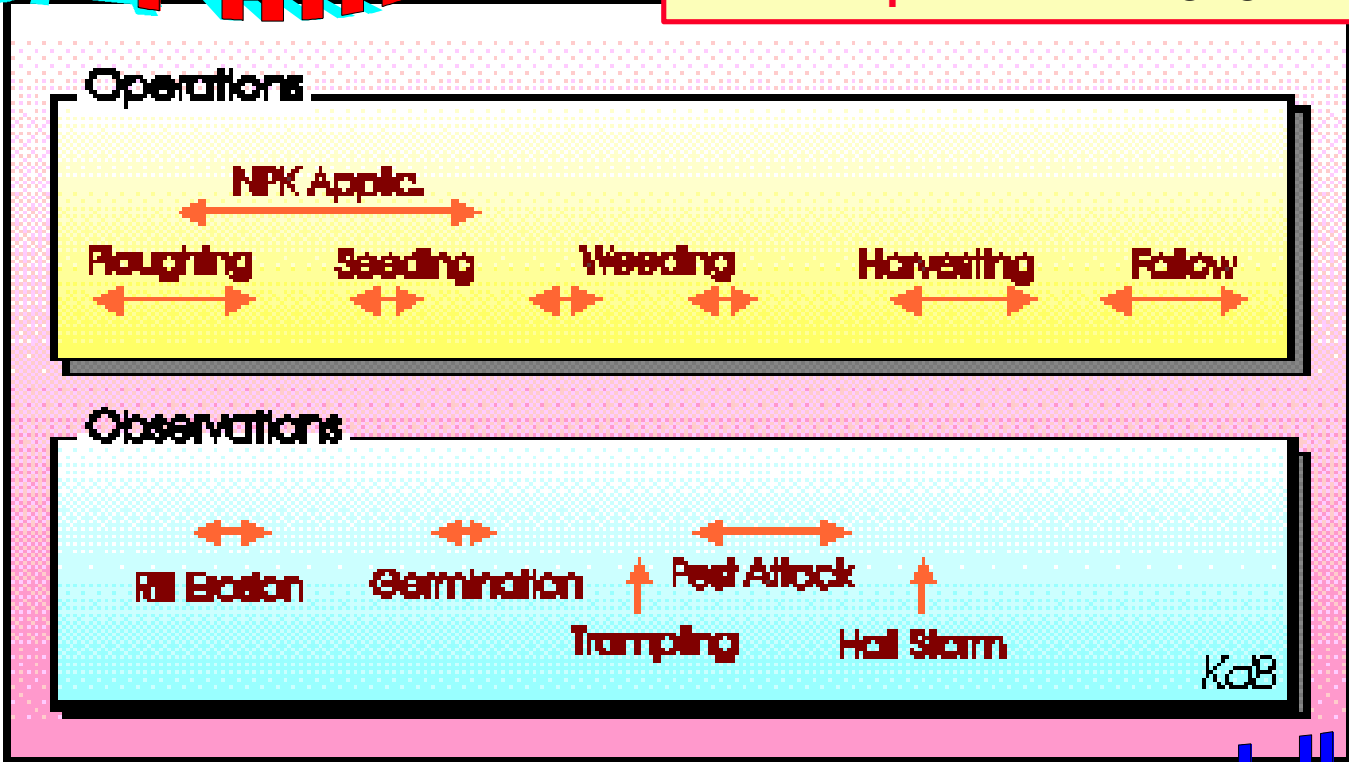
```
«9»
```

# Software aspect no.-1 :

- 1 **The Operations and Observation Picklist.**
- 2 The Data Entry Screens for Operation Data.
- 3 The Data Entry Screens for Observation Data.
- 4 Links regarding Species / Services - Products / Benefits.

# Level 4

Any Operation or Observation of a single Land Use System can be specified at Level 4.



Detailed Info on one Land Use System Description !!



Shown below are two (merged) empty picklists (both at **Level 4** );  
one refers to **Operations-Id. s** and one to **Observations Id. s**.

```
«1. FA0, SWA/89/001 ▶ No:34 ▶ Africa, Swaziland, Hhohho, Motshane »  
«2. No:1 ▶ Each LUS Description is valid for one Plot »  
«3. No:2 ▶ 1993 - 1994 ▶ FA0-Test, Single Cropping of Cereals »  
«4. Operations and Observations»  
«Operations»  
«Observations»  
«2»
```

The picklist is divided into **2** sections:

- Operations, and
- Observations

The shown picklist contains at present **no**  
items !!

Now a picklists (at Level 4 ) is shown that already contains items, i.e. six Operations-Id. s and one Observations Id.

```
<<1. FA0, BOT/91/001 ▶ No:1 ▶ Botswana, Central, Palapye, Ratholo, Serulapye >>  
<<2. No:1 ▶ Each LUS Description is valid for one Plot >>  
<<3. No:1 ▶ **/11/1992 - **/11/1993 ▶ FA0-Test, Mixed-Intercr.of Cereal+Pukin>>  
<<4. Operations and Observations>>  
  <<Operations>>  
    **/11/1992 - **/01/1993 Fallow Grazing  
    04/01/1993 - 08/01/1993 lanting, Se./Pl. without Pattern, Broadcasted Seeding  
    04/01/1993 - 08/01/1993 Tillage, Ploughing, Along Contours (or Flat), » -  
    07/02/1993 - 21/02/1993 ry Production Related, Crop Maintenance, Weeding, » -  
    **/05/1993 - **/11/1993 Fallow Grazing  
    **/05/1993 - **/05/1993 Primary Production Related, Harvesting, Picking  
  <<Observations>>  
    **/04/1993 - **/05/1993 Reducing Factors, Infectious Plant Related, Livestock  
    <<9>>
```

The picklist contains summarized information on defined Operations and Observations.

We will continue explaining these two options.

F1=Help F3=Print F5=Copy F10=Edit Ctrl-Ins=Add Obs. Ins=Add Oper. Del=Delete

# Software aspect no.-2 :

- 1 The Operations and Observation Picklist.
- 2 **The Data Entry Screens for Operation Data.**
- 3 The Data Entry Screens for Observation Data.
- 4 Links regarding Species / Services - Products / Benefits.

**All optional data entry  
fields will be shown . . .**

After pressing **Ins** , an empty Operation data entry screen appears.

```
<<1. FAO, SWA/89/001 ▶ No:34 ▶ Africa, Swaziland, Hhohho, Motshane >>
<<2. No:1 ▶ Each LUS Description is valid for one Plot >>
<<3. No:2 ▶ 1993 - 1994 ▶ FAO-Test, Single Cropping of Cereals >>
<<4. Operations and Observations>>
<<Operations>>
<<Add/Edit an Operation>>
Operation Name : >>
- Species involved :
% of Plot involved : - - [%][Min - Max]
Operation Period : - - [Start - End Date]
Periodicity : No
- Description :
Operation Duration : - -
- Unit : >>
- Info Source : >>
Task Time : - -
- Unit : >>
- Info Source : >>
Labour Inputs : *
Material Inputs : *
Implements Used : *
Main Power Source : >>
Products/Benefits : *
Comments : -
Additional Information about this Operation
F1=Help F10=Save
```

Shown are the following fields:

- » fields: to open a link to a specific Glossary tree;
- \* fields: when selected a second data entry screen is opened;
- fields: for free text data entry.

Certain fields need a bit more explanation . . .

```
<<1. FAO, SWA/89/001 ▶ No:34 ▶ Africa, Swaziland, Hhohho, Motshane >>
<<2. No:1 ▶ Each LUS Description is valid for one Plot >>
<<3. No:2 ▶ 1993 - 1994 ▶ FAO-Test, Single Cropping of Cereals >>
<<4. Operations and Observations>>
<<Operations>>
<<Add/Edit an Operation>>
Operation Name : >>
- Species involved : >>
% of Plot involved : >>
Operation Period : >>
Periodicity : >>
- Description : >>
Operation Duration : >>
- Unit : >>
- Info Source : >>
Task Time : >>
- Unit : >>
- Info Source : >>
Labour Inputs : *
Material Inputs : *
Implements Used : *
Main Power Source : >>
Products/Benefits : *
Comments : >>
Additional Information about this Operation : >>
F1=Help F10=Save
```

The timespan during which the operation was carried out.

If in that timespan the operation occurred repeatedly.

The total time required in the field to carry out the operation, e.g. in days.

The total labour time spend to carry out the operation, e.g. in mandays; this item can be further specified under **Labour Inputs**.

Operations are distinct and intended management actions carried out by human on land.

Selecting the \* field called **Labour Inputs** will open the second data entry screen as shown below.

```
Info Source
Labour Inputs      : *
Material Inputs   : *
Implements Used   : *
Main Power Source : >>
Products/Benefits : *
Comments          : -
```

Everybody involved can be specified separately

1 : x  
ratio

```
<<Add/Edit a Labour Input>>
Gender & Age Class : >>
Skill              : >>
No.of Persons     : - - - [Min - Max]
- Info Source     : >>
Task Time         : - - - [Min - Max]
- Unit           : >>
- Info Source     : >>
Labour Origin     : >>
```

Several (as required) **Labour Inputs** can be specified.

Selecting the \* field called **Material Inputs** will open the second data entry screen as shown below.

```
INFO SOURCE
Labour Inputs      : *
Material Inputs   : *
Implements Used   : *
Main Power Source : >>
Products/Benefits : *
Comments         : -
```

Any Input Applied can be Entered

1 : x  
ratio

```
«Add/Edit a Material Input»
Material Input      : >>
Species/Service    : >>
Quality Class      : >>
Quantity           : - - - [Min - Max]
- Unit             : >>
- Info Source      : >>
Input Origin       : >>
```

Several (as required) **Material Inputs** can be specified.

Selecting the \* field called **Implements Used** will open the second data entry screen as shown below.

Labour Inputs	:	*
Material Inputs	:	*
Implements Used	:	*
Main Power Source	:	>>
Products/Benefits	:	*
Comments	:	

Any Implement Used can be Specified

1 : x  
ratio

<<Add/Edit an Implement Used>>

Implement	:	>>	
- Species	:	>>	
Quality Class	:	>>	
Number used	:	-	[Min - Max]
- Info Source	:	>>	
Implement Origin	:	>>	

Several (as required) **Implements Used** can be specified.



Selecting the \* field called **Products/Benefits** will open the second data entry screen as shown below.

```
Info Source
Labour Inputs      : *
Material Inputs   : *
Implements Used   : *
Main Power Source : >>
Products/Benefits : *
Comments          : -
```

Any Product or Benefit obtained can be Entered

1 : x  
ratio

```
<<Add/Edit a Product/Benefit Obtained>>
Species/Service   : >>
Product/Benefit   : >>
Quality Class     : >>
Quantity          : - - - [Min - Max]
- Unit            : >>
- Info Source     : >>
Product Destination : >>
- A-Priori LU Class : >>
```

Several (as required) **Products/Benefits** can be specified.

# Software aspect no.-3 :

- 1 The Operations and Observation Picklist.
- 2 The Data Entry Screens for Operation Data.
- 3 The Data Entry Screens for Observation Data.**
- 4 Links regarding Species / Services - Products / Benefits.

**All optional data entry  
fields will be shown . . .**

After pressing **Ctrl-Ins** simultaneously, an empty Observation data entry screen appears.

```
<<1. FAO, SWA/89/001 ▶ No:34 ▶ Africa, Swaziland, Hhohho, Motshane >>
<<2. No:1 ▶ Each LUS Description is valid for one Plot >>
<<3. No:2 ▶ 1993 - 1994 ▶ FAO-Test, Single Cropping of Cereals >>
<<4. Operations and Observations>>
<<Operations>>
<<Observations>>
<<2>>
<<Add/Edit an Observation>>
Observation Name : >>
- Species involved :
Sample-ID :
Observation Period : - -
Relocated Material : >> -
- Origin/Destination: >>
Observed Quantity : - -
- Unit : >>
- Info Source : >>
Implements Used : *
Production Increase : - -
- Info Source : >>
Comments : -
A description of a condition that may affect the performance of the LUS
F1=Help F10=Save Enter=Select
```

Observations are descriptions or measurements of a condition that may influence the performance of the land use system, that states its impact on the environment, or that reflects the knowledge of the land user about the land use system.

Certain fields need a bit more explanation . . .

```
«1. FAO, SWA/89/001 ▶ No:34 ▶ Africa, Swaziland, Hhohho, Motshane »
«2. No:1 ▶ Each LUS Description is valid for one Plot »
«3. No:2 ▶ 1993 - 1994 ▶ FAO-Test, Single Cropping of Cereals »
«4. Operations and Observations»
«Operations»
«Observations»
«2»
«Add/Edit an Observation»
Observation Name : »
- Species involved :
Sample-ID :
Observation Period : - -
Relocated Material : »
- Origin/Destination: »
Observed Quantity : - -
- Unit : »
- Info Source : »
Implements Used : *
Production Increase : - -
- Info Source : »
Comments : -
A description of a condition that may affect the performance of the LUS
F1=Help F10=Save Enter=Select
```

The observed material that moved in or out of the land use system.

The implements used to carry out the observation.

The observed impact on the productivity of the land use system (positive or negative).

Selecting the \* field called **Implements Used** will open the second data entry screen as shown below.

```
- Unit : >>
- Info Source : >>
Implements Used : * _____
Production Increase : - - - [%][Min - Max]
- Info Source : >>
Comments : _____
```

1 : x  
ratio

*Any Implement Used can be Specified*

```
<<Add/Edit an Implement Used>>
Implement : >> _____
- Species : >> _____
Quality Class : >> _____
Number used : - - - [Min - Max]
- Info Source : >> _____
Implement Origin : >> _____
```

**Several (as required) Implements Used can be specified.**

# Software aspect no.-4 :

- 1 The Operations and Observation Picklist.
- 2 The Data Entry Screens for Operation Data.
- 3 The Data Entry Screens for Observation Data.
- 4 **Links regarding Species / Services - Products / Benefits.**

Attached to the Operation Name field is the **Species Involved** field.

```
«Add/Edit an Operation»
Operation Name      : ry Production Related, Seeding, (trans-) Planting, » -
- Species involved  : » -
% of Plot involved  : - - - [%][Min - Max]
Operation Period    : - - - [Start - End Date]
Periodicity         : No
- Description       : -
Operation Duration  : - - - [Min - Max]
- Unit              : »
- Info Source       : »
```

The operation may be specific for a specific species grown.

If more species are grown, that species must thus be entered here.

```
«Select a Species/Service»
Plants, Cereals, Common/Proso Millet; Panicum miliaceum L., » -
Plants, Cereals, Sorghum/Broom~/Durra~/Jowar; Sorghum bicolor (L.) Moench, »
«?»
```

You may select one of the species / services as specified at **Level 3**, otherwise you must enter unspecified ( **F6** key ).

In the **Product/Benefit Obtained** edit screen, a **Species/Service plus Product/Benefit** must be specified.

```
«Add/Edit a Product/Benefit Obtained»
Species/Service      : »
Product/Benefit     : »
Quality Class       : »
Quantity            : - - - [Min - Max]
- Unit              : »
- Info Source       : »
Product Destination : »
- A-Priori LU Class : »
```

**Note:** The picklist below contains only two [S/S-P/P] combinations to select from.

```
«Select a Species/Service and Product/Benefit»
Plants, Cereals, Common/Proso Millet; Panicum miliaceum L., » -
└Plant Produce, Flowers/Fruits/Seeds, Grain (Cereals), » -
Plants, Cereals, Sorghum/Broom~/Durra~/Jowar; Sorghum bicolor (L.) Moench, »
└Plant Produce, Flowers/Fruits/Seeds, Grain (Cereals), » -
«4»
```

You can only select one of the [Species/Services - Product/Benefit] combinations as specified at **Level 3**.



# Review of the Glossary :

Inputs can originate from various origins . . .

```
«Add Item for Material Inputs»
Code      : 0
Name      : ██████████
Species/Service → ██████████
Comments  : ██████████
```

No link to Species possible  
Link to Animals  
Link to Plants  
Link to Animals and Plants  
Link to Species specified for the LUS

«5»

# When specifying Material Inputs :

For seed, in the Glossary, a Link to Species specified for the LUS is defined. This shows in the picklist below.

```
«Add/Edit a Material Input»
Material Input : Planting Materials, Seed
Species/Service : »
Quality Class  : »
Quantity      : - - - [Min - Max]
- Unit        : »
- Info Source  : »
Input Origin   : »
```

```
«Select a Species/Service»
Plants, Cereals, Common/Proso Millet; Panicum miliaceum L., » -
Plants, Cereals, Sorghum/Broom~/Durra~/Jowar; Sorghum bicolor (L.) Moench, »
```

«2»

## Other examples regarding Material Inputs :

«Add/Edit a Material Input»

Material Input	:	Organic/Other Manures, of Plant Origin, » -
Species/Service	:	»
Quality Class	:	»
Quantity	:	-
- Unit	:	»
- Info Source	:	»

For Manure of Plant Origin, in the Glossary, a Link to Plants is defined.

«Plants; »

Cereals; »↑

Root and tuber plants; »

Sago + related pl's for starch; »

Pulses; »

Vegetable oils and fats; »

Edible fruits and nuts; »

Vegetables; »

Spices and condiments; »

Essential oil plants; »↓

«38»↓

«Add/Edit a Material Input»

Material Input	:	Organic/Other Manures, of Animal (Human) Origin, » -
Species/Service	:	»
Quality Class	:	»
Quantity	:	-
- Unit	:	»
- Info Source	:	»

For Manure of Animal Origin, in the Glossary, a Link to Animals is defined.

«Animals; »

Cattle; »↑

Buffaloes; »

Sheep; »

Goats; »

Horses; »

Donkeys / Asses; »

Mules and hinnies; »

Pigs; »

Camels and Dromedaries; »↓

«12»↓

# Review of the Glossary :

Implements can originate from various origins . . .

```
«Add Item for Implements»
Code       : 0
Name       : ██████████
Species/Service → ██████████
Comments   : ██████████
```

No link to Species possible  
Link to Animals  
Link to Plants

«3»

```
«Add/Edit an Implement Used»
Implement   : For Plant Support, Staking Sticks
- Species   : »
Quality Class : »
Number used : -
- Info Source : »
Implement Origin : »
```

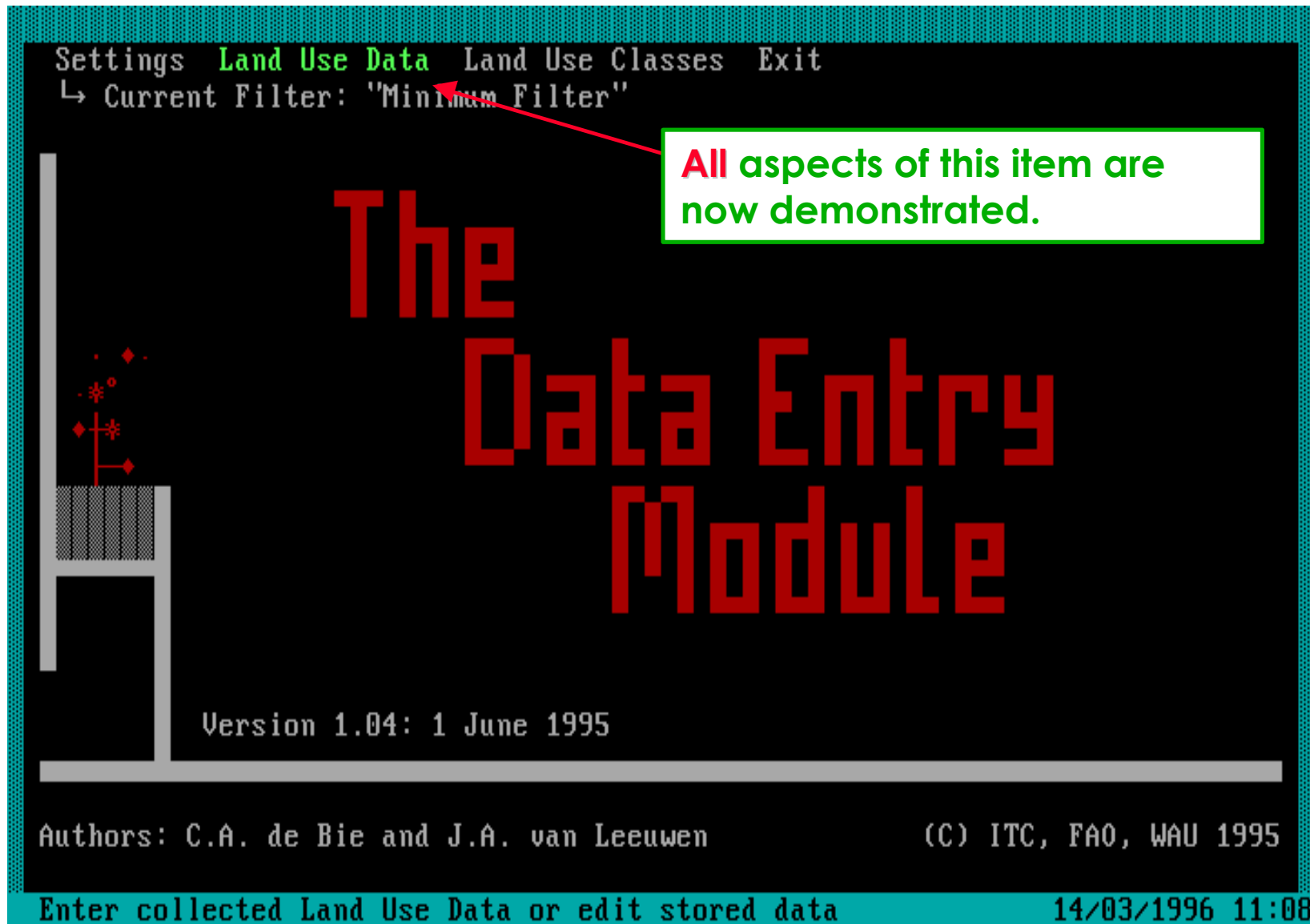
```
«Plants; »
Cereals;
Root and tuber plants;
Sago + related pl's for starch;
Pulses;
Vegetable oils and fats;
Edible fruits and nuts;
Vegetables;
Spices and condiments;
Essential oil plants;
```

«38»

For Stacking Sticks, in the Glossary, a Link to Plants is defined. This shows in the picklist below.

## When specifying Implements :

This is the end of the demo on Land Use Data: **Part 2 . . .**





# The Land Use Database

End of Demo-6 .... Thank YOU

