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Pairwise ranking in Ethiopia

Gordon R Conway

• Introduction

An IIED/IDS team consisting of myself, Robert Chambers and Jennifer McCracken recently ran an RRA workshop in Wollo Province for the Ethiopian Red Cross. It was primarily intended as a demonstration of the value of RRA methods in formulating development plans for Peasant Associations (PA). The fieldwork was carried out in two PA's -Gobeya and Abicho.

The theme of the workshop was diversification and we spent some time trying to obtain the views of the peasants on the virtues and drawbacks of different crops and tree species. One technique we developed was pairwise ranking and the following are extracts from our report which describe the procedure.

We first tried it to find out which tree species the peasant's preferred for reforestation: 'First we interviewed three farmers, on the PA Chairman, another the Producer Co-operative Chairman and the third a farmer who had been specially trained in conservation. We chose six most widely used reforestation species and wrote the name of each on a square of paper. We presented the three farmers with a pairwise comparison by laying two of the squares, Eucalyptus camaldulensis and Eucalyptus globulus, on the floor and asking the men to collectively chose which was 'better' in terms of usefulness. Then we asked them why they had chosen that species over the other. We also asked whether the less preferred species was superior to the preferred in any respect. Finally we asked whether there was anything else they could tell us about the pair. We continued laying out different pairs of squares for comparison until

all the possible combinations had been considered.

The final ranking was obtained by examining all the pair combinations, laying out the squares of paper in a line so that each species was above all those to which it was preferred. The ranking and characteristics were as follows:

1. African olive

- Diverse utilisation.
- Implements-digging sticks, yoke and other parts of ploughs, hoes, axe handles, sticks.
- House construction -not attacked by termites.
- Firewood - no smoke.
- Incense from leaves.

2. *E. camendulensis*

- Easy to split.
- Strong for construction.
- Durability.
- Straightness.
- Easy to make charcoal.

3. *E. globulus*

- Good for holding nails.
- High elasticity - bends easily.
- Difficult to produce charcoal.
- Farming implements.
- Firewood.

4. Juniper

- Window and door timber.
- Chair making.

5. White acacia or local acacia

- House building.

6. Croton

- Door construction.
- Smokey as firewood.

We then asked whether there was any characteristic or potential tree missing from this list. After some discussion the farmers said they would like a hard furniture tree like *Podocarpus* which would be better than Juniper.

We then interviewed one of our team members who was a forestry expert, and asked him to make the pairwise choices on the same species, and to consider their characteristics in terms of ease of nursery cultivation, establishment, productivity and erosion control. His ranking was as follows:

1. *E. camaldulensis*

- No nursery problems. High yield.
- High survival rate.
- Not so good erosion control.

2. *E. globulus*

Like *E.camaldulensis* but lower yield and survival rate.

3. African olive

- Longer in nursery.
- Good erosion control.
- Slower growth.

4. Juniper

- Even longer in nursery.
- Lower survival rate.
- Larger crown.
- Once mature better erosion control.

5. White acacia

- Faster in nursery.
- Nitrogen fixing.
- Poorer erosion control.

6. Croton

- Better erosion control but longer maturing.
- Poorer establishment.
- Better in highlands

(The comparisons refer to the species immediately above).

One conclusion from this analysis is that a tree which combines the fast growing characteristics of the Eucalyptus with the versatility of use and better erosion control of the African olive would be of great value.
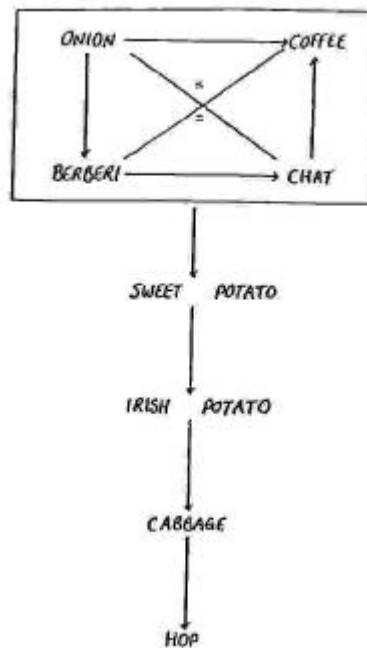
Preferred homegarden species

We used a similar ranking procedure to find out which home garden crops one particular farmer preferred and why. We selected the eight most important home garden crops and performed the same pairwise comparisons as for the tree species, in this case asking the farmer to make his choice each time on the basis of which of the two he would grow in the homegarden of the new village if land was short and he could only grow one of the pair. The main criteria the farmer used were size of cash income, quickness of cash income, and importance as an ingredient in traditional cooking. The final ranking was more complicated than for the tree species. We could not lay the squares in a straight line: instead they formed a pattern as in Figure 1.

Coffee, onions and chat were preferred over potatoes, cabbage and hops because they provide a cash income. Coffee was said to be good because it provided the country with foreign exchange.

Berberi (Chili) was preferred over chat, potatoes, cabbage and hops because it is a basic ingredient of traditional stews, but onions were preferred over berberi because "there is no point in using berberi unless stew has onions".

Onions and chat were preferred over coffee because income is quicker.

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Figure 1. Farmer preferences for home garden crops

The farmer could not choose between berberi and coffee or onions and chat, i.e. between a basic ingredient and a cash income.

Sweet potato was preferred over Irish potato because it can be readily mixed with wheat and other foods to produce bread. Irish potatoes were preferred over cabbage because they produce more income and over hops because two crops a year can be obtained.

Cabbage was preferred over hops because it combined personal use and income.

We were all struck by just how informative this simple pairwise ranking turned out to be. In just over half an hour we had uncovered a rich pattern of decision making - that was not obvious by direct observation of casual conversation.

The practical value of the information was that it brought home to the team how important it was to provide a broad range of crops from which the farmers could choose when developing the home gardens in the new villages.

- **Gordon R Conway,** IIED, 3 Endsleigh Street, London WC1H 0DD, UK.