

## APPENDIX F

### GUIDELINE FOR THE USE OF WIND NETS FOR REHABILITATION

#### **Equipment:**

**Shade cloth:** The standard shade cloth which is used is green with a thickness (i.e. the percentage light which is blocked) of 40%, with a 0,75 m width and sleeves for 'droppers' located every 2,5 m.

**Droppers:** These are fed into the sleeves of the shade cloth and secured in the ground in order to support the shade cloth. The dropper must be longer than the shade cloth is wide such that it can be secured into the ground. The standard length of the dropper is 1,2 m with a 10 mm thickness.

**Hammers:** Four-pound hammers are used to hammer the droppers into the ground. It is better to insert the droppers into the sleeves of the shade cloth before hammering them into the ground.

#### **Methodology for use:**

The following guidelines must be considered when erecting wind nets:

- » It is important that the nets are erected perpendicular to the strongest general wind direction. The strongest general wind direction in the Namaqualand area is south (S) and south-south-west (SSW) in the summer, and warm berg winds from the opposite direction, the north-west (NW), in the winter. Nets must therefore be placed in a north-west (NW), south-east (SE) orientation in order to be perpendicular to the two mentioned wind directions.
- » Before the nets are tensioned, it is recommended that the topsoil is tilled in order to create conditions which promote plant growth.
- » For larger areas of flat grade, it is important that tilled furrows are established in the same direction as the wind nets are erected (i.e. SE to NW). Contours which are perpendicular to the direction in which the nets are erected result in the nets not reaching the ground over the till lines. The gaps between the nets and the till lines results in wind erosion making the plough lines deeper over time.
- » It is very important that the nets are erected as soon as the topsoil is replaced and tilled in an area. Delays in erecting wind nets can result in the loss of valuable topsoil through wind erosion. In some instances, topsoil can be lost within a few days through wind erosion if not protected by wind nets. Extensive loss of topsoil will require that new topsoil will need to be sourced, laid and tilled.
- » It is important that nets are erected the correct distance apart. If they are placed too far apart, then wind erosion is not combated at all, and soil will be lost from the

rehabilitation area. From practical experience in the use of wind nets in the Namaqualand area, it is recommended that the wind nets be placed a distance of 5 m apart.

- » It is recommended that the wind nets are not fastened to the droppers, but that they are allowed to move freely up and down the poles. Fastening the net to the poles increases the wind pressure on the seams resulting in the nets tearing sooner. If the nets are loose, it can be tightened through sand build up, making it more effective.
- » For the same reasons as stated above, it is recommended that no wire is used along the top of the nets. Practical experience with the use of wind nets in Namaqualand indicates that, rather than using wire at the top of the nets, a team of workers should be employed to dig the nets out when they have been buried in sand.
- » Nets must also not be erected too tight, and must have some slack in order to reduce wear and tearing of the nets.
- » The first few rows of wind nets in a rehabilitation area are exposed to the wind and are therefore more vulnerable to being blown away or torn. A practical solution has been shown to be the erection of one or two rows in the natural veld as the natural vegetation then acts as a buffer against the strong winds.
- » The nets have the added advantage that they catch some of the mist resulting in the ground alongside the nets receiving more water, thereby promoting plant growth.
- » Planting on the protected side of the nets (NE side) assists in promoting the growth of relocated and germinating plants.

#### **Maintenance of wind nets:**

It is as important to continually maintain the wind nets as it is to erect them correctly. The correct maintenance of wind nets extends the lifespan of the nets and assists in obtaining the maximum effectiveness of the nets. Maintenance includes:

- » Tightening of the nets once they have slackened, or if there is too much sand which has built up against the net.
- » Digging out of certain sections of the nets which have been buried beneath the sand.
- » Replacement of torn sections of the nets.

Wind nets must be maintained until the area has successfully rehabilitated/reasonable plant regrowth has been achieved.