

## APPENDIX I: VISUAL INDICATORS OF LAND DEGRADATION

The following table summarises the main visual indicators for the different types of land degradation. It must be remembered that these types of land degradation are inter-related. See Glossary (Appendix II) for explanations of terms.

| <i>Visual Indicator</i>   | <i>Types of Soil &amp; Land Degradation</i> |                     |                               |                             |                             |                               |
|---|---|---------------------|-------------------------------|-----------------------------|-----------------------------|-------------------------------|
|   | <i>Water Erosion</i>                        | <i>Wind Erosion</i> | <i>Salinity or Alkalinity</i> | <i>Chemical Degradation</i> | <i>Physical Degradation</i> | <i>Biological Degradation</i> |
| Rills   | ✓   | ✗                   | ✗                             | ✗                           | ✗                           | ✗                             |
| Gullies   | ✓   | ✗                   | ✗                             | ✗                           | ✗                           | ✗                             |
| Pedestals   | ✓   | ✓                   | ✗                             | ✗                           | ✗                           | ✗                             |
| Armour layer  | ✓   | ✓                   | ✗                             | ✗                           | ✗                           | ✗                             |
| Accumulations of soil around clumps of vegetation or upslope of trees, fences or other barriers | ✓   | ✓                   | ✗                             | ✗                           | ✗                           | ✗                             |
| Deposits of soil on gentle slopes   | ✓   | ✗                   | ✗                             | ✗                           | ✗                           | ✗                             |
| Exposed roots or parent material  | ✓   | ✓                   | ✗                             | ✗                           | ✗                           | ✗                             |
| Muddy water/mudflows during and shortly after storms  | ✓   | ✗                   | ✗                             | ✗                           | ✗                           | ✗                             |
| Sedimentation in streams and reservoirs   | ✓   | ✗                   | ✗                             | ✗                           | ✗                           | ✗                             |
| Dust storms/clouds  | ✗   | ✓                   | ✗                             | ✗                           | ✗                           | ✗                             |
| Sandy layer on soil surface   | ✗   | ✓                   | ✗                             | ✗                           | ✗                           | ✗                             |
| Parallel furrows in clay soil or ripples in sandy soil  | ✗   | ✓                   | ✗                             | ✗                           | ✗                           | ✗                             |
| Bare or barren spots  | ✓   | ✓                   | ✓                             | ✓                           | ✗                           | ✗                             |
| Efflorescence   | ✗   | ✗                   | ✓                             | ✗                           | ✗                           | ✗                             |
| Soil particles unstable in water  | ✗   | ✗                   | ✓                             | ✗                           | ✗                           | ✓                             |
| pH  | ✗   | ✗                   | ✓                             | ✗                           | ✗                           | ✗                             |
| Nutrient deficiency/toxicity symptoms evident on plants   | ✓   | ✗                   | ✗                             | ✓                           | ✗                           | ✓                             |
| Increased incidence of plant disease/morphological irregularities (e.g. stunting)               | ✗   | ✗                   | ✓                             | ✓                           | ✓                           | ✗                             |
| Decreasing yields   | ✓   | ✓                   | ✓                             | ✓                           | ✓                           | ✓                             |
| Changes in vegetation species   | ✓   | ✗                   | ✓                             | ✓                           | ✗                           | ✗                             |
| Plough pan  | ✗   | ✗                   | ✗                             | ✗                           | ✓                           | ✗                             |
| Restricted rooting depth  | ✓   | ✗                   | ✗                             | ✗                           | ✓                           | ✗                             |
| Structural degradation, including compaction  | ✗   | ✗                   | ✓                             | ✗                           | ✓                           | ✗                             |
| Poor response to fertilisers  | ✗   | ✗                   | ✗                             | ✓                           | ✗                           | ✓                             |
| Decrease in organic matter (lighter-coloured soils)   | ✓   | ✗                   | ✓                             | ✗                           | ✗                           | ✓                             |
| Increased sealing, crusting and run-off; reduced soil water                                     | ✗   | ✗                   | ✓                             | ✓                           | ✓                           | ✓                             |
| Decrease in number of earthworms/ants and similar   | ✗   | ✗                   | ✗                             | ✗                           | ✗                           | ✓                             |