In our efforts to provide enough food for the human population at a low cost, mankind has had a considerable impact on the natural world. This impact has led to a reduction in biodiversity.

## **Impact of Agriculture:**

As natural ecosystems develop over time, they become varieties of plant and animal species, gravier use of complex communities with many individuals of a large number of different species = they have a high species diversity index.

Agricultural ecosystems are controlled by Agra state are different. Farmers often selecoptives for particular qualities that mak productive. A Part Certain practises have directly removed habitats and the number of species and the genetic variety of alleles reduced species diversity: they posses is reduced to few that exhibit the desired features.

To be economic, the number of individuals of these desirable species needs to be large. Any particular area can support a certain amount of biomass. If most of the area is taken up by the one species the farmer deems desirable, it follows that there is a smaller area available for all other species.

These other species have to compete for what little space and resources are available. Many will not survive this competition. Even if they evolved to adapt to • these changes, the population of the species would be considerably reduced. In addition pesticides are used to exclude these species because they compete for light, mineral ions, water and food required by the farmed species. The overall effect is a reduction in spe- • cies diversity. The index is therefore low in agricultural ecosystems.

## Species diversity and human activities

## **Balance between conservation and farming:**

There has been an increase in the need for the production of food, it has been nearly doubled in the last 40 years. This has been achieved by the improved genetic chemical fertilisers and pest cicks greater use of biotechnology and the sen farm practises, leading to re rent the conversion of land supporting natura communities into farmland. These changes have resulted in tredminished habitats within ecosystems.

- Removal of hedgerows and grubbing out woodland
- Creating monocultures (replacing natural meadows with cereal crops)
- Filling in ponds and draining marsh
- Over-grazing of land

## Other practises have had a more indirect affect:

- Use of pesticides and inorganic fertilisers
- Escape of effluent from silage stores into water
- Absence of crop rotation and lack of intercropping

However, there are a number of techniques to increase species and habitat diversity without raising food costs or lowering yields:

- Maintain existing hedgerows at a beneficial height and shape
- Plant hedges instead of using fences for boundaries

- Leave wet corners of fields rather than draining them.
- Plant native trees on land with a low species diversity
- Reduce use of pesticides (can use organisms that are resistant to pests)
- Use organic fertilisers •
- Use crop rotation rather than fertilisers to improve sol fertility

It is recognised that these practises will make food slightly more expensive to produce but maintaining biodiversity is important. If its seriously reduced, global living systems will become unstable.

Hedge rows have a number of uses. They increase species diversity and act as corridors along which many species move to disperse themselves, they also produce food for both animals that live in the hedge

