Harvesting of Rice

1. Harvesting
   - Harvesting is the process of collecting the mature rice grains from the field.
   - Harvesting activities include reaping (cutting mature panicles and straw), stacking, threshing, cleaning and hauling. These can be done individually, or simultaneously using a combine harvester.

2. Harvesting methods
   (a) Manual harvesting
      - This is the most common means of rice harvesting.
      - The rice crop is cut using sickles (best for cutting 15-25 cm above ground level), and hand-held sickles (best for cutting just below the panicle).

   **Advantages:** Very effective in lodged crop conditions.
   **Disadvantages**
   - Labour-intensive: 1 acre requires 14 persons for 8 hours.

   (b) Machine harvesting
      - Machine harvesting uses reapers (machine that cuts and gathers the crop).
      - Reapers are either hand-driven or mounted on the front of a tractor. Use of reapers is not widespread but is gaining popularity in Kenya.
      - Reapers lay the crop in a row, which allows easy pick-up of the harvested crop.
      - The common self-propelled type with a cutting width of 1.2 m for 4 rows takes 1.4 hrs/acre.

   **Advantages**
   - Low labour requirements.
   - High capacity than manual harvesting.

   **Disadvantages**
   - Difficult to reap lodged crop.
   - Reapers not readily available locally.

   (c) Combine harvesting
      - The combine harvester combines all operations: cutting the crop, threshing, cleaning, and discharge of grain into a bulk wagon or directly into bags. Straw is discharged behind the combine in a row.

   **Advantages**
   - Faster and efficient (45 min per acre).
   - Produces clean grain.

   **Disadvantages**
   - Higher cost.
   - Less effective in partially lodged crop.
   - Not suitable for high-shattering varieties, e.g. NIBAM 10 & 11 varieties.
   - Complex machine.

3. Harvesting precautions
   - Avoid harvesting very early in the morning. Morning dew and rain increases probability of choking the harvester, leading to grain loss.
   - Have enough clean gunny bags for the harvested crop (30-36 bags per acre).
   - Harvesting must be closely timed with threshing and drying, which should be done within 24 hours of harvesting.