

#### **4. Direct Seeding of Rice (DSR)**

**Prelims Syllabus:** Agriculture, Ignorance, Subsidy, Marketing

**Mains Syllabus:** GS-III Major Crops Cropping Patterns in Various Parts of the Country, Different types of Irrigation and Irrigation Systems Storage, transport and marketing of Agricultural Produce and Issues and Related Constraints; e-technology in the Aid of Farmers.

#### **Why in News?**

- Recently, the farmers are now being encouraged to adopt Direct Seeding of Rice (DSR) in place of Conventional Transplanting due to the Shortage of Labourers.

#### **About Conventional Transplanting:**

- The farmers prepare nurseries where the paddy seeds are first sown and raised into young Plants.
- These seedlings are then uprooted and replanted 25-35 days later in the main field.
- It is transplanted on fields that are “puddled” or tilled in standing water using tractor-drawn disc harrows.

#### **Direct Seeding of Rice (DSR):**

- There is no nursery preparation or transplantation. The seeds are instead directly drilled into the field by a tractor-powered machine.
- Conventionally the water act as a herbicide for paddy but in DSR, water is replaced by real chemical herbicides. Farmers have to only level their land and give one pre-sowing irrigation or rauni.
- Once the field has good soil moisture, they need to do two rounds of ploughing and planking (smoothing of soil surface), which is followed by the sowing of the seeds and spraying of herbicides.

#### **Advantages of DSR:**

- The most important one is water savings. The first irrigation (apart from the pre-sowing rauni) under DSR is necessary only 21 days after sowing.
- It is unlike in transplanted paddy, where watering has to be done practically daily to ensure submerged/flooded conditions in the first three weeks.
- It saves more number of working labours, which about three labourers are required to transplant one acre of paddy at almost Rs 2,400 Per Acre.
- Here, the cost of herbicides under DSR will not exceed Rs 2,000 per acre.

**Disadvantages of DSR:**

- The main issue is the Availability of Herbicides.
- The seed requirement for DSR is also higher, at 8-10 kg/acre, compared to 4-5 kg in Transplanting.
- The laser land levelling, which costs Rs 1,000/acre, is compulsory in DSR. This is not so in Transplanting.
- Here, the yields are as good as from normal transplanting, but one need to sow by the first fortnight of June. The plants have to come out properly before the Monsoon Rains Arrive.
- In Transplanting there is no such problem, where the saplings have already been raised in the Nursery.

