

RESOURCE MANAGEMENT IN RAINFED DRYLANDS

Rainfed Dryland Agriculture in India : An Overview

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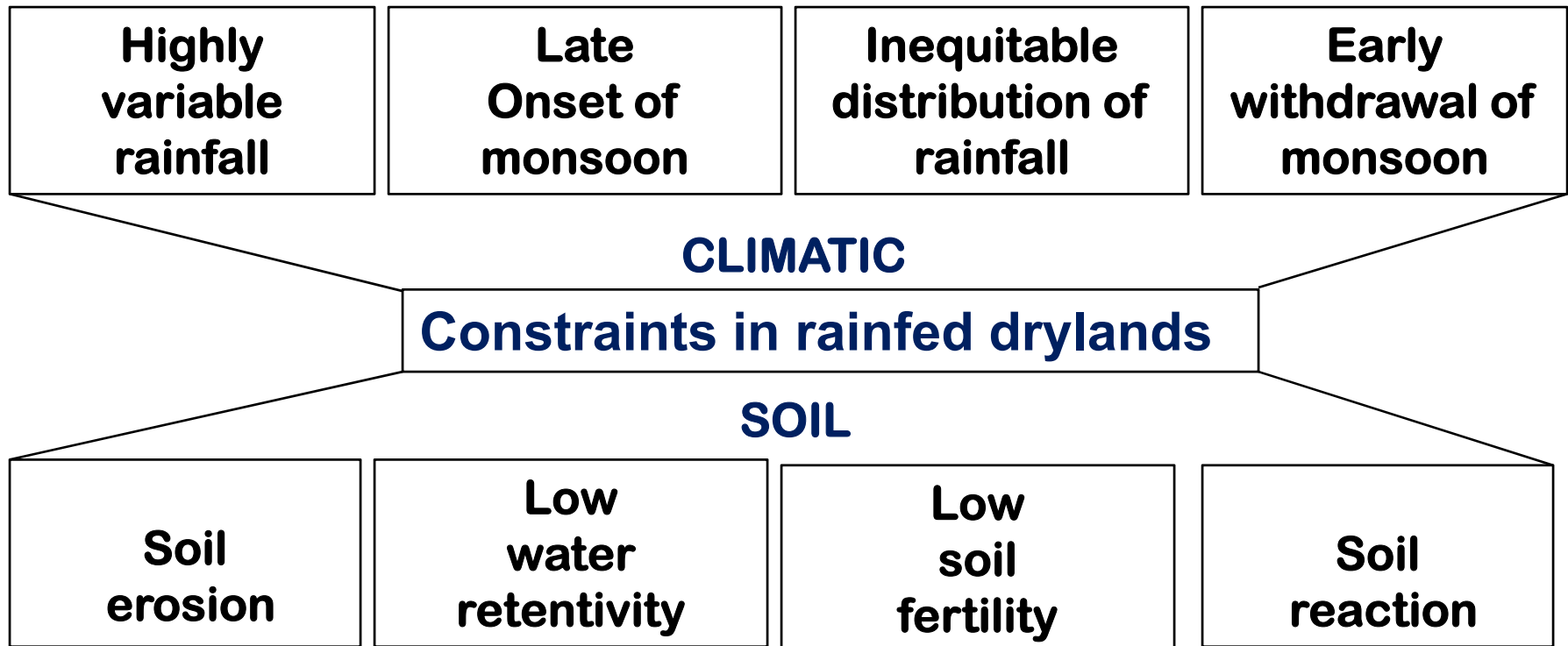
Limiting factor in rainfed drylands

Soil moisture is the most limiting factor- water deficit/moisture stress

Effects of moisture stress

**Water relations
Photosynthesis
Anatomical changes
Metabolic reaction
Hormonal relationships**

**Nutrition
Growth
Development
Reproduction
Yield**



Drylands are not only thirsty, but also hungry too...

Vagaries of Monsoon rains

Intensity & distribution	Late onset	Early withdrawal	Prolonged dry spells
Surface runoff	Delayed sowing	Terminal stress	Yield loss

**Rainfall is the only source of soil moisture for dryland crops
The success or failure of agriculture is closely linked with the
onset, distribution and withdrawal of monsoon**

Monsoons

Periodic wind especially in the Indian ocean that brings rains

Types of rainy seasons

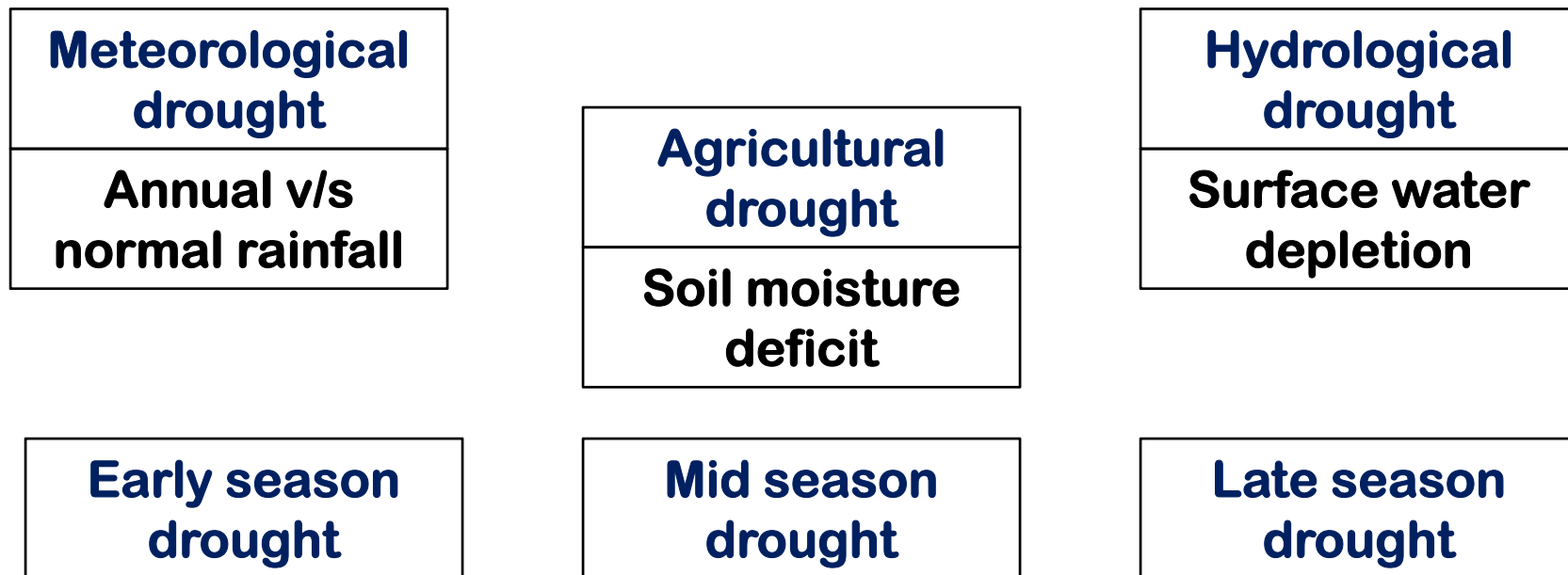
South-West monsoon	North-East monsoon	Winter Rainfall	Summer Rainfall
June - Sep	Oct - Dec	Jan-Feb	March - May
296m ha m	40m ha m	12m ha m	52m ha m
74%	10%	03%	13%

Average annual rainfall of the country - 1200mm

Rain water amount - 400 million ha meter

Droughts

Condition under which crops fail to mature because of insufficient supply of water through rains



Conclusions

- ❖ **Rainfed agriculture would have to be revisited**
- ❖ **There is need for the greening of grey areas and for a second green revolution**
- ❖ **These small farms, are the main providers of food and nutritional security to the nation**
- ❖ **Dryland farming will be the most important subject in future to combat poverty and ensure food security**