

7d. Cost benefit analysis for the case study done on crop management



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Ex-ante analysis

Weather situation: *"anticipating wet spell of six days with rainfall of more than 10 mm day⁻¹" during sowing nursery*

Agro Advisory: The proposed agro met advisory is to irrigate the nursery after sowing in the evening hours of a day anticipating rainfall and drain it on next day morning and this be continued for two days till the rice plumule comes-up.

Table 1. Partial budgeting for agro met advisory – Nursery establishment

Stage of the crop	Losses	Amount (₹) per 4000m ²	Gains	Amount (₹) per 4000m ²	Estimate change (₹) (Gain -Loss)
Nursery establishment (R1)	Additional cost on account of irrigation for two days	600	In terms of realization of additional grain yield of 400 kg @ ₹10 per kg since seedling establishment was better in this case	4000	-
	Reduced returns	-	Loss avoided on account of re-sowing	500	-
	Subtotal	600	Subtotal	4500	3900

Cost benefit analysis for the case study done on crop management

Weather situation: Weather situation "*anticipating wet spell of six days with rainfall of more than 25 mm day⁻¹*" when crop had reached maximum tillering stage.

Agro Advisory: The proposed agro met advisory is to provide drainage to drain excess rainwater so as to ensure no water stagnation for proper tiller development.

Table 2. Partial budgeting for agro met advisory – Peak Vegetative Growth

Stage of the crop	Losses	Amount (₹) per 4000m ²	Gains	Amount (₹) per 4000m ²	Estimate change (₹) (Gain -Loss)
Peak vegetative growth (R5)	Additional cost on account for providing drainage	1200	In terms of having 3-4 extra tillers per plant with additional number of grains per plant (~500) thus 600 kg higher yield @ (₹) 10 per kg	6000	-
	Reduced returns	-	Reduced costs	-	-
	Subtotal	1200	Subtotal	6000	4800

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Weather situation: "anticipating high relative humidity (40 – 90%) combined with prevalence of minimum temperature <math><20^{\circ}\text{C}</math>" at maximum tillering and panicle initiation stages of rice.

Agro Advisory: The proposed agro met advisory is to adopt timely plant protection measures.

Table 3. Partial budgeting for agromet advisory – disease management

Stage of the crop	Losses	Amount (₹) per 4000m ²	Gains	Amount (₹) per 4000m ²	Estimate change (₹) (Gain -Loss)
Blast and <i>Helminthosporium</i> leaf disease management (R6)	Additional cost on account of adopting appropriate disease control measure	1500	In terms of additional grain yield of 500 kg @ ₹ 10 per kg	5000	-
	Reduced returns	-	Reduced costs	-	-
	Subtotal	1500	Subtotal	5000	3500

Summary

- Results were clearly revealed that by adopting agro met advisory at field level would offer possible benefits to the farmers in terms of providing enhanced cash flow by reducing weather and climate related rice production risks.
- The study hypothesis envisaged that whenever weather based agro met advisory is adopted by the farmers, there would be profound reduction in crop production risks.