

Evaluation of remediation recommendations: Stakeholder Workshop 3 Karapınar, Turkey

1. Introduction

The Karapınar area is the most arid part of Anatolia, and suffers significantly from wind erosion due to unfavorable soil texture and meteorological conditions, combined with intensive use of ground water resources. An experimental design was set up in a strip farming area to test the effect of wind erosion on wheat crop (Ekiz bread wheat) (Figure 1). Technologies applied in this study site were minimum tillage, ploughed stubble following and stubble following. Area of each technologies was further divided into four parcels, and two of them were sowed that year with a fallow parcel in between.



Figure 1: View of the applications of technologies in strip farming plan, Karapınar hotspot.

2. Priority Remediation Strategies

In the previous WB3 workshops, minimum tillage technology was prioritized for testing, using mostly vegetative indicators for two years to understand the changing topsoil quality and water demand. Project staff added stubble farming technology and replaced the no-till technology with minimum tillage for testing. After two years monitoring, a stakeholder workshop was held in June 2011 in Karapınar to evaluate research findings with local land users.

After presenting monitoring and modelling results and reminding participants of the criteria used to evaluate remediation technologies during the previous WB3 workshop, participants selected the same criteria set again to assess the significance of remediation technologies that had been tested and modelled. Prioritisation of remediation strategies indicated that fallow with stubble farming was deemed slightly more advantageous than other strategies, due to its effect on increasing yield, and probably encouraging soil and water conservation (Table 1). Ecological parameters were prioritized in a similar way (Figure 2). Stakeholders feared particularly that fallowed areas significantly reduced

farm incomes. Minimum tillage unexpectedly gave low yields and scored poorly in relation to other secondary vegetative indicators, and hence was de-prioritised by stakeholders.

Table 1: Ranking of remediation options before and after field trials and modelling in Karapinar

Rank	Pre-results (WB3)	Post-results from trials and models
1	No-till technology	Fallow with stubble farming
2	Pressurized irrigation	Fallow without stubble farming
3	Drought-resistant crop production	Minimum tillage

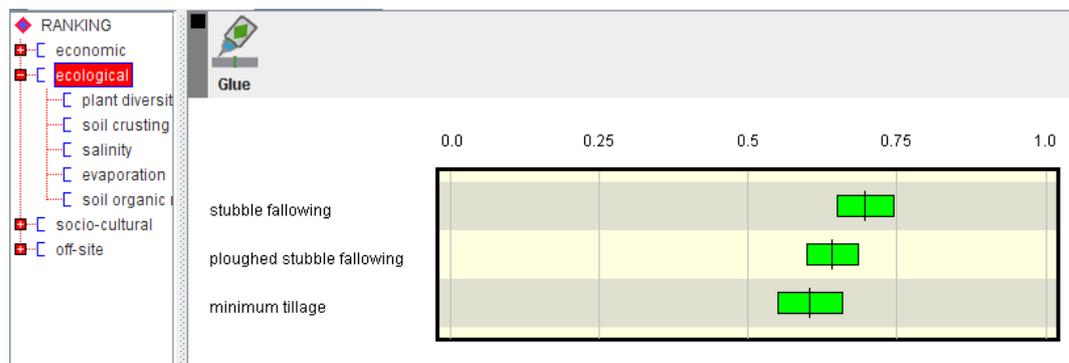


Figure 2: Ranking results of the three technologies applied according to ecological criteria in Karapinar

3. How can we enable priority remediation options to be adopted?

Stakeholders considered that though stubble and ploughed stubble farming caused slight advantages, they required considerable areas of fallowed strips that would diminish the widespread adoption of the technology due to income forgone from fallow land. It was suggested that these technologies would be likely to become better alternatives when ground water resources became scarcer and more expensive in (the near) future.

Informative brochures with information about likely increases in yields and information about likely income and expenses associated with each technology were thought to be a good way to increase adoption. Participants suggested that such a brochure should include trends in ground water availability and data on increases in wind erosion, explaining how these may become increasing problems in the near future, necessitating the adoption of the proposed remediation strategies. The main obstacle to the adoption of the proposed strategies was the relatively minor decrease in income due to incorporating fallowed strips into fields.



Figure 3: Stakeholders are discussing the remediation options at WB4-5 workshop.

4. Feedback from participants

All participants were positive about the inclusive nature of DESIRE project, although it was time-consuming. Heavy field works (irrigation etc.) prevented farmers from attending some of the planned meetings. More funding and involvement of farmers in the experimental phase of project would increase the probability of widespread adoption of remediation strategies.

5. Next steps

The following actions were agreed:

- Workshop report will be sent to stakeholders between 15-30 October, 2011 (it was done in time)
- A brochure including the advantages of stubble farming will be prepared and disseminated by Dr. Mehmet Zengin during November 2011