Pragati Abhiyan

Pomegranate Survey Analysis

Introduction

a.To understand the impact of our intervention over the years, we took up interview through survey of pomegranate growers. We plan to cover 50 farmers from each of the three regions every year. The area where we conduct Workshops would be the Treatment group and for comparison we shall also interview farmers growing pomegranate from regions adjacent to the intervention regions. These are similar agro climatic regions.

For the first group it would be Ahmednagar (Sangamner), Nashik (Satana) and Solapur (Mohol). And for the second group we plan to cover Sangli adjacent to Solapur, Aurangabad adjacent to Ahmednagar and Dhule adjacent to Nashik. The choice of Treatment and Control groups are based on the following data. These are the districts which have highest area under pomegranate.

Table 1. Area under Pomegranate in the State

Sr. No.	District	Area under pomegranate	% of area under pomegranate
1	Solapur	25591	31.44
2	Nasik	25211	30.98
3	Ahmednagar	6118	7.52
	Pune	4114	5.05
5	Sangli	8643	10.62
6	Dhule	3241	3.98
	Others		10.40
	TOTAL		100

Questionnaire

The first draft of the questionnaire for the farmer's interviews was discussed and prepared in a meeting with the Field Coordinators. The methodology and the questionnaire were discussed with Dr. Bharat Ramaswamy of Indian Statistical Institute, New Delhi and Dr. Supe of Rahuri Agriculture University.

The first version thus prepared was tested during the pilot in Nashik district. Based on this experience we made appropriate changes.

The questionnaire has four sections, the outline is given here.
Section I – Demographic and Socio information
Section II – Agri / Farming related
Section III – Pomegranate related
Section IV – About Workshops
on available, are sought.

b. Table 2. Number of Farmers surveyed is given in the following table.

Sr. No	District/Region	No. of Farmers surveyed	
		2008	2009
1	Nashik	46	50
2	Dhule	38	40
3	Solapur	51	65
4	Sangli	50	48
5	Ahamadnagar	50	50
6	Pune	50	50
	Total	285	303

c. when we look at figures pertaining to yield and prices, the 2008 data has taken for 2006, 2007 and 2008. So the figures given as 2008 are average of these three years.

Context

Pomegranate cultivation has been affected by two major diseases. One, *Mar rog* as it is locally called, is a disease which is certain to kill the plant and spread its effect on to other plants too. There are multiple reasons for its influence and spread. Second is *Telya rog*, oil spots. This happens when the fruits are ready for harvest and suddenly the fruits get oily spots on the surface and the fruit starts to crack. This too spreads across the plantation. Oil spots is a pest attack.

When we started one and a half years back with our workshops, almost all the farmers, across the three regions were in distress. Everywhere the demand was to address these two problems. We approached the University, which has a special department for research on Pomegranate. We also approached a Grower and Government initiated agency which is also meant for research and dissemination. The university has been involved in good research but their mechanism to reach the farmers through the State Agri department is very inefficient and very slow. The latter organization is not active and has not reached the growers with solution. This organization is rather interested in trying to get subsidies to the farmers from the government. The subsidies have been promised and are being processed to reach the distress farmers. But they do not provide solution. And hence we realized that the university's research based suggested solution seem to be the only way out. Also some farmers had on their own had done some experiments and had tried to find solution. So we

got scientists from the university and the progressive farmers from various places to specially discuss these two problems.

1. Average Yield

Average yield has decreased across the entire state in last couple of years due to these tow diseases. But in our area of intervention, the extent of decrease in terms of productivity is less. This can be seen in the following chart.

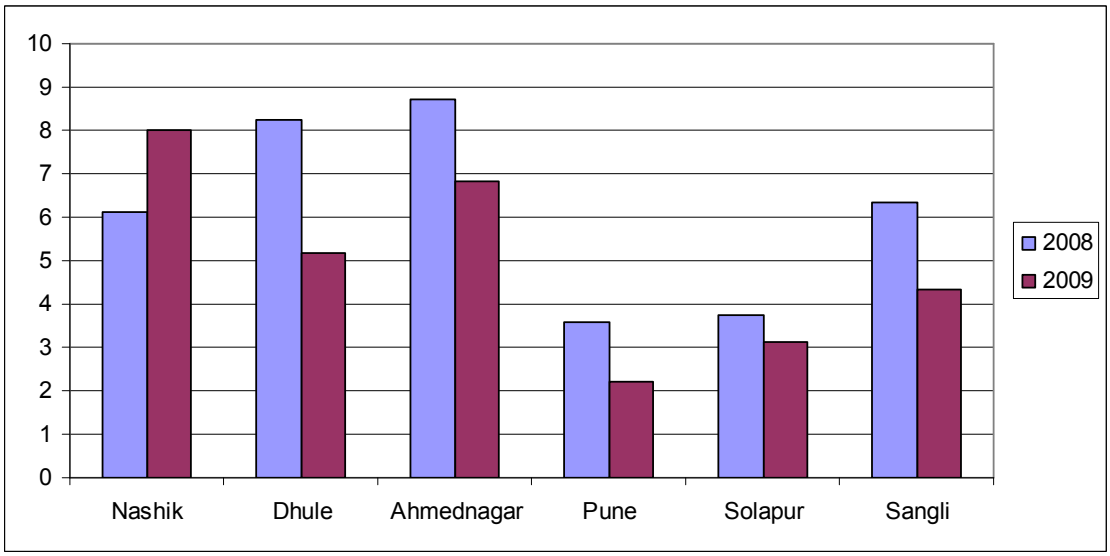


Figure 1 - Yield per acre in tonnes across regions and over two years

The average yield given as 2008 is actually average of three seasons of 2006, 2007 and 2008. This is compared with production of 2009. The downward trend of productivity is obvious. Only exception is Nashik. We feel, this is so because the farmers here are very active and have formed a group. They actively participate in the workshops and follow the instructions very sincerely. Hence they are the only group who feel that they have experienced a turnaround in addressing these two diseases. The other two Control districts show 30 to 40% decrease over the previous year whereas the Treatment group shows 15 to 20% decrease over the years.

2. Cultivation practices

All the workshops which were specially meant to discuss the above two diseases, always emphasised on proper cultivation practices. Cultivation practices related to water management were absolutely essential for tackling *Mar rog*. During the discussion, three practices evolved as important and that the farmers were not really aware of them. These were Soil testing and fertilizer application based on soil testing; second was Post harvest operations and third was use of Soluble fertilizers.

A. Soil Testing

Fertiliser application, planning of doses needs be based on the N, P and K and other micro nutrients available in the soil in the plantation plot. Though this has been recommended by the university, this was not followed by the farmers. For one, they did not realize the importance of it and two the laboratory facilities are not easily accessible. (Government labs get the tests done at nominal rate but they are inefficient and the private ones are expensive and are located only in the cities) For the first, the Resource person from the University convinced the farmers in the workshops and for the second he offered to get it done at the university lab at a concessional rate. As can be seen in the table below, the number is higher in Treatment group than the Control group The test results are applicable for three years, so the farmers who got it done last year need not do it again for another three years. Hence total number of farmers of two years is presented in the table here.

Table 3. No. of Farmers who have got Soil Testing done

Sr. No	District/Region	No. of Farmers
1	Nashik	70
2	Dhule	36
3	Solapur	50
4	Sangli	25
5	Ahamadnagar	65
6	Pune	58

B. Post Harvest Operation

Once the harvest period is over, traditionally, the plantation is left to itself and usually farmer did not even visit the plantations! This was told to the Resource persons and they said this is a wrong practice. Also during the discussions on the disease management, the post harvest cultivation practices were discussed. Based on these observations, the importance of the same was conveyed during the workshops. Farmers were at first surprised that they had never learnt about this from earlier sources, but they understood the importance especially to control insect and pest attack.

And so in the second year survey we asked the question whether they have adopted any post harvest operations like plant protection measures, fertilizer applications including organic and micro nutrients.

The table given below gives the number of farmers who have said that they have started doing the said cultivation practices for the post harvest period.

Table 4. Number of farmers adopting post harvest operation

Sr. No	District/Region	No. of Farmers who adopted	No. of farmers interviewed
1	**Nashik**	**28**	50
2	Dhule	10	40
3	**Solapur**	**28**	65
4	Sangli	0	48
5	**Ahamadnagar**	**11**	50
6	Pune	1	50

C. Soluble Fertilisers

For efficient use of fertilizers, use of Soluble fertilizers were recommended by the Resource persons. Here the fertilizers are applied through the drip irrigation, water delivery mechanism. This method is useful to combine certain fertlisers and pesticides for better results. The Soluble fertilisers are little expensive than the usual ones but the requirement over the years gets reduced. We also tried to see in the second year survey if farmers have adopted changes to use Soluble fertilizers. The table given below gives the number of farmers who have changed.

Table 4. Number of farmers started using soluble fertilizers

Sr. No	District/Region	No. of Farmers who adopted	No. of farmers interviewed
1	**Nashik**	**25**	50
2	Dhule	1	40
3	**Solapur**	**30**	65
4	Sangli	0	48
5	**Ahamadnagar**	**49**	50
6	Pune	17	50

3. Cost of Cultivation

The workshops introduced new practices, new fertilizers and insecticides and pesticides. All the suitable inputs need to be used very properly and in a balanced quantity. It was obvious that the new practices would have increased cost of production. But if it simultaneously increases productivity then the increase in costs are acceptable and actually useful. So we looked at the cost of cultivation per kg of production and the observations are given in the following chart.

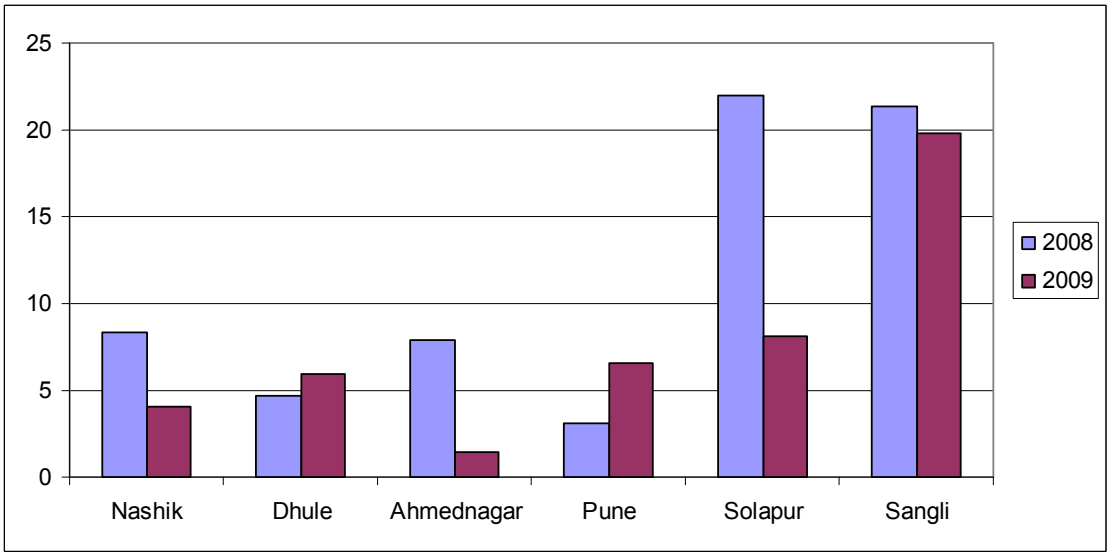


Figure 2 - Cost of cultivation per kilo across regions over years

This clearly shows that the cost of cultivation has decreased in all the Treatment regions and has actually increased in two out of the three Control regions. The farmers tend to listen to all possible sources as they come their way and try to apply the suggestions, which leads to increases in costs of inputs. But this haphazard way proves to be inefficient suggests this data. So when the changes are adopted after getting systematic suggestions they are probably much more useful and effective.

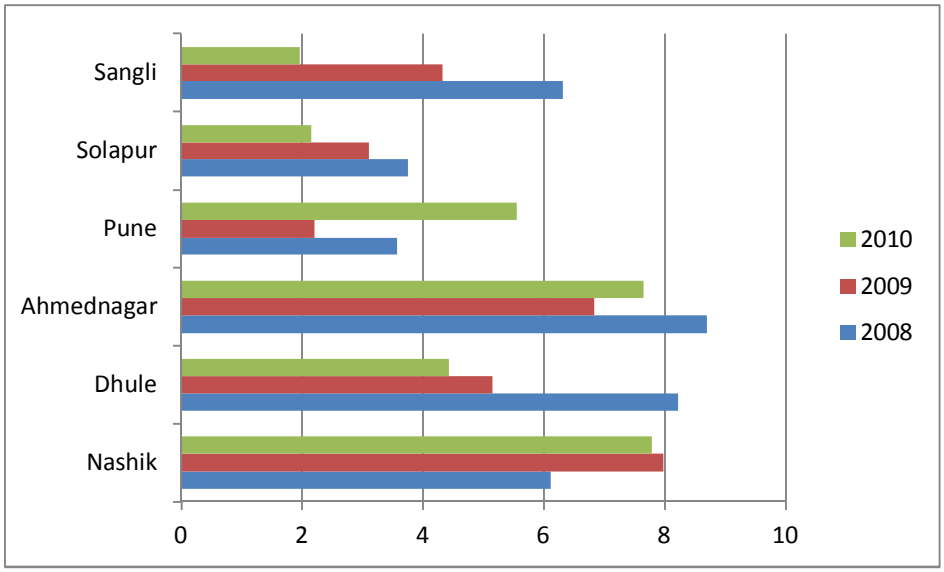
4. Prices

Prices received by the farmers depend on more than one factors. Yet it is useful to look at the change in prices over years and across districts. The following table clearly shows that the Treatment districts have got better prices than the Control groups districts. Farmers have tried to reach out to newer markets and some have even tried exports. The quality of the fruits has the potential to directly translate into better prices. Size and colour of the fruit determine the quality of the fruit. The change in cultivation practices adopted by them have affected the quality too, said the farmers.

Table 5. Rate received per kilogram (Rupees per kg)

District	Average		Minimum		Maximum	
	2008	2009	2008	2009	2008	2009
Nashik	27	48	15	35	48	71
Dhule	22	44	12	27	30	60
Ahmednagar	28	50	15	35	40	100
Pune	25	48	14	32	60	90
Solapur	28	40	14	18	90	70
Sangli	26	41	10	10	100	70

1. Average yield (ton per acre)



2. Average cost of cultivation per kg.