

**RESEARCH ARTICLE :**

# Constraints faced by the banana growers in adoption of risk management practices in drip irrigated banana cultivation

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**ARTICLE CHRONICLE :**

**Received :**

05.12.2016;

**Revised :**

25.12.2016;

**Accepted :**

03.01.2017

**SUMMARY :** The study to know constraints faced by the banana growers in adoption of risk management practices in drip irrigated banana cultivation was conducted on a random sample of 220 drip irrigated banana growers in Anand district of Gujarat state. The data were collected by personal contacts. Major economic problems faced by the banana growers in management of risk in drip irrigated banana cultivation were heavy cost of installation of drip irrigation system, high cost of fuel to use engines for irrigation and high cost of spare parts of drip irrigation system. As far as technological constraints faced by the banana growers were lack of sufficient electricity, problem of salty ground water and difficulty in interculturing operations. Non-availability of quality material of DIS with reasonable rates, lack of technical guidance from company agent in time and delay in sanction of loan and subsidy were the major administrative constraints faced by the banana growers. Whereas, in case of marketing related constraints faced by the banana growers were absences of support price during glut in the market, high cost of transportation and lack of timely information regarding demand and supply of the produce. Personal and socio-psychological constraints faced by the farmers in management of risk during drip irrigated banana cultivation were lack of knowledge about schedule of water soluble fertilizers application, lack of knowledge about use of fertilizers, liquid fertilizers, GR etc. and lack of knowledge about plant protection of banana crop. While, lack of knowledge about export procedure, lengthy procedures and formalities for export of produce and lack of knowledge about minimum residual level of chemical were the major export related constraints faced by the banana growers in drip irrigated banana cultivation.

**KEY WORDS :**

Adoption, Risk management, Drip irrigation, Banana, Cultivation

**How to cite this article :** Gulkari, Krunal D., Chauhan, N.B. and Onima, V.T. (2017). Constraints faced by the banana growers in adoption of risk management practices in drip irrigated banana cultivation. *Agric. Update*, 12(1): 84-88; DOI : 10.15740/HAS/AU/12.1/84-88.

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## **BACKGROUND AND OBJECTIVES**

In Gujarat state, a traditional but most commercial crop of banana is suitable for drip irrigation system. Now-a-days, this irrigation

system is becoming more popular among the farming community of the region. While, adopting risk management practices in drip irrigated banana cultivation, farmers faces different constraints. Even with these

circumstances, the productivity of this crop is satisfactory. Keeping this in view to enhance existing productivity of banana, the present investigation was carried out to know and understand the constraints perceived by the banana growers in adoption of risk management practices in drip irrigated banana cultivation with the following objective to study constraints faced by the drip irrigated banana growers in drip irrigated banana cultivation.

## RESOURCES AND METHODS

The study was conducted on random sample of 220 drip irrigated banana growers in Anand district of Gujarat state. The banana growers with minimum three years of involvement in drip irrigated banana cultivation were considered to include in the study. A random sample of total 220 drip irrigated banana growers were selected for the study from the eight talukas of Anand district. The data were collected by personal contacts. The data thus, collected were classified, tabulated and analyzed in order to make the finding meaningful. The statistical measure, such as mean score was used to analysis of the data.

## OBSERVATIONS AND ANALYSIS

The results obtained from the present study as well as discussions have been summarized under following heads:

### **Constraints faced by the drip irrigated banana growers in adoption of risk management practices in drip irrigated banana cultivation :**

In the present study, some constraints faced by the drip irrigated banana growers in adoption of risk management practices in drip irrigated banana cultivation were also studied. The data in this regard are given in Table 1.

It can be seen from the Table 1 that major economic problems faced by the banana growers in the management of risk in drip irrigated banana cultivation were heavy cost of installation of drip irrigation system, high cost of fuel to use engines for irrigation, high cost of spare parts of drip irrigation system, difficult to take valid advantage of crop insurance, difficult to get fare price of banana, lack of sufficient credit in time, lack of capital for covering entire area under DIS, high cost of liquid fertilizers, high cost of insecticides and pesticides, high cost of seedling

of banana crop and requirement of additional tank for DIS. As far as technological constraints faced by the banana growers in the management of risk during cultivation of drip irrigated banana were; lack of sufficient electricity, problem of salty ground water, difficulty in inter-culturing, problem of cracking of laterals, frequent clogging of drippers and micro-tubes, complexity in maintenance of fertigation system, complex system of fertilizer distribution, complicated technology of DIS and fertigation system and problem of water leakages in the DIS.

It was noticed that administrative constraints faced by the banana growers in adoption of risk management practices in drip irrigated banana cultivation were; non-availability of repairing facility in village, non-availability of quality materials of DIS with reasonable rates, lack of technical guidance from company agent in time, delay in sanction of loan and subsidy, lack of technical guidance from VLWs in time and lack of timely technical guidance from other sources like input dealers. The data in the same Table 1 indicate that marketing related problems faced by the banana growers in management of risk during drip irrigated banana cultivation were; absence of support price in case of glut in the market, high cost of transportation, lack of timely information regarding demand and supply, fluctuation in market price and low prices to the produce in market, non-availability of packaging and grading facility, exploitation by middlemen and whole sellers, delay in the payment of amount to farmers and even dragging payment and inadequate physical facilities in market.

It was also seen that personal and socio-psychological constraints faced by the farmers in management of risk during drip irrigated banana cultivation were; lack of knowledge about schedule of water soluble fertilizers application, lack of knowledge about use of fertilizers, liquid fertilizers, GR etc., lack of knowledge about plant protection of banana, lack of motivation, lack of knowledge about incorporation of fertilizers into drip system, lack of spirit among the farmers regarding DIS, resistance from family members and frustration due to failure of DIS in work. From the same Table 1 it can be observed that export related constraints faced by the drip irrigated banana growers were; lack of knowledge about export procedure, lengthy procedures and formalities for export of produce, lack of knowledge about minimum residual level of chemical,

**Table 1 : The farmers according to their constraints faced in adoption of risk management practices of drip irrigated banana cultivation**

Sr. No.	Constraints	Mean value	Rank
<b>Economic constraints</b>			
1.	Heavy cost of Installation	2.51	1 <sup>st</sup>
	Spare parts	2.00	3 <sup>rd</sup>
	Liquid fertilizers	1.51	5 <sup>th</sup>
	Fuel to use engines for irrigation	2.37	2 <sup>nd</sup>
	Insecticides and pesticides	1.50	6 <sup>th</sup>
	Seedling of banana crop	1.25	7 <sup>th</sup>
2.	Lack of capital for covering entire area under DIS	1.51	5 <sup>th</sup>
3.	Requirement of additional tank	1.00	8 <sup>th</sup>
4.	Difficult to take valid advantage of crop insurance	2.00	3 <sup>rd</sup>
5.	Difficult to get fare price of banana	2.00	3 <sup>rd</sup>
6.	Lack of sufficient credit in time	1.89	4 <sup>th</sup>
<b>Technological constraints</b>			
1.	Frequent clogging of drippers and micro-tubes	1.76	5 <sup>th</sup>
2.	Lack of technical know-how Complicated technology	1.01	7 <sup>th</sup>
	Complex system of fertilizer distribution	1.60	6 <sup>th</sup>
	Maintenance of fertigation system is complex	1.76	5 <sup>th</sup>
3.	Problems of Cracking of laterals	2.00	4 <sup>th</sup>
	Water leakages in the system	1.00	8 <sup>th</sup>
	Difficulty in inter-culturing	2.05	3 <sup>rd</sup>
	Lack of sufficient electricity	2.40	1 <sup>st</sup>
	Salty ground water	2.19	2 <sup>nd</sup>
<b>Administrative constraints</b>			
1.	Non-availability of Repairing facilities in village	2.37	1 <sup>st</sup>
	Quality materials of DIS with reasonable rates	1.76	2 <sup>nd</sup>
2.	Non-availability of technical guidance in time Company agents	1.31	3 <sup>rd</sup>
	VLWs	1.00	5 <sup>th</sup>
	Others	1.00	5 <sup>th</sup>
3.	Delay in sanction of loan and subsidy	1.05	4 <sup>th</sup>
<b>Marketing related constraints</b>			
1.	Fluctuation in market price and low prices to the produce in market	2.35	4 <sup>th</sup>
2.	High cost of transportation	2.49	2 <sup>nd</sup>
3.	Exploitation of by middlemen and whole sellers	1.82	6 <sup>th</sup>
4.	Lack of timely information regarding demand and supply	2.37	3 <sup>rd</sup>
5.	Delay in the payment of amount to farmers and even dragging payment	1.49	7 <sup>th</sup>
6.	Absence of support price in case of glut in the market	2.51	1 <sup>st</sup>
7.	Inadequate physical facilities in market	1.14	8 <sup>th</sup>
8.	Non-availability of packaging and grading facility	2.14	5 <sup>th</sup>
<b>Personal and socio-psychological constraints</b>			
1.	Lack of spirit among the farmers regarding DIS	1.14	6 <sup>th</sup>
2.	Lack of motivation	1.76	4 <sup>th</sup>

Table 1 contd...

Contd... Table 1

3.	Resistance from family members	1.07	7 <sup>th</sup>
4.	Frustration due to failure of DIS in work	1.00	8 <sup>th</sup>
5.	Lack of knowledge about		
	Use of fertilizers, liquid fertilizers, GR	1.93	2 <sup>nd</sup>
	Plant protection of banana	1.86	3 <sup>rd</sup>
	Schedule of water soluble fertilizers application	2.37	1 <sup>st</sup>
	Incorporation of fertilizers into drip system	1.48	5 <sup>th</sup>
<b>Export related constraints</b>			
1.	Difficult to meet export standards	1.81	9 <sup>th</sup>
2.	Lengthy procedures and formalities for export	2.35	2 <sup>nd</sup>
3.	Lack of knowledge about		
	Export procedure	2.37	1 <sup>st</sup>
	Packaging and grading level	2.23	5 <sup>th</sup>
	Minimum residual level of chemical	2.33	3 <sup>rd</sup>
	Banned chemical	2.14	6 <sup>th</sup>
4.	Non-availability of		
	Refrigerated vans	2.31	4 <sup>th</sup>
	Export market information	2.06	7 <sup>th</sup>
	Export varieties	1.39	10 <sup>th</sup>

non-availability of refrigerated van, lack of knowledge about packaging and grading level, lack of knowledge about banned chemical, non-availability of export market information, difficult to meet export standards and non-availability of export varieties. Similar work related to the present investigation was also carried out by Dave (2011); Durga (2009); Khot (2011); Pise (2006); Trivedi (2009) and Zala (2008).

### Conclusion :

Important economic constraints faced by the drip irrigated banana growers were heavy cost of installation of drip irrigation system, high cost of fuel to use engines for irrigation. Similarly, major technological constraints stated by drip irrigated banana growers were lack of sufficient electricity, problem of salty ground water. Whereas, administrative constraints expressed by the drip irrigated banana growers was non-availability of repairing facility in village, non-availability quality materials of DIS with reasonable rates. While marketing related constraint's like absence of support price in case of glut in the market high cost of transportation were reported by the drip irrigated banana growers. As far as related to personal and socio-psychological constraints faced by the drip irrigated banana growers were lack of knowledge about schedule of water soluble fertilizers application, lack of knowledge about use of fertilizers, liquid fertilizers,

GR etc. Lack of knowledge about export procedure, lengthy procedures and formalities for export of produce, lack of knowledge about minimum residual level of chemical were the major export related constraints expressed by the drip irrigated banana growers in drip irrigated banana cultivation.

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