

Perception of the farmers towards hybrid rice cultivation

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ABSTRACT

Studies on the farmer's perception towards hybrid rice cultivation was undertaken during 2006 in 14 villages of Balipatna and Baliana blocks of Khurda district in Orissa, India. A total of 104 farmers growing high yielding varieties extensively and exposed to hybrid rice technology were personally interviewed with a structured schedule for collecting relevant information on their perception about hybrid rice cultivation. The finding revealed that the rice growers had better perception on hybrid rice particularly high yielder, responsive to fertilizer, more grain on panicle, profuse tillering and low seed requirement. They perceived soil and its fertility status, rainfall and temperature suitable for hybrid rice cultivation. The study concludes that quality seeds of preferable variety, credit facilities, advisory services, subsidy facilities, remunerative price support and procurement policy need to be strengthened for popularization of hybrid rice cultivation.

Key words: Hybrid rice, perception, farmers

Rice occupies a pivotal position in food production of the world. The available scientific information on rice production and productivity revealed that at the current rate of population growth in India, the requirement of rice by turn of the century is estimated to be around 100 million tones. Moreover, this need to be achieved from less land and labour, limited water and reducing the use of fertilisers. This has tempted the scientists to develop hybrid rice with high productivity and popularized the same in the states like Punjab, Tamil Nadu, Karnataka and Andhra Pradesh etc. (Singh 1995, Janaah, 1995). The Government of Orissa had also taken bold steps for introducing hybrid rice throughout the rice growing areas in the past. But the efforts was not successful. However, the interest of the growers assumed to be the most important factor for adoption of hybrid rice. Unless the rice growers perceived a need, it was not easy to popularize hybrid rice. Attempt was therefore made to make an analysis on the perception of the growers towards hybrid rice cultivation.

MATERIALS AND METHODS

The study was conducted in Khurda district of Orissa during 2006, Balipatna and Baliana blocks are the potential areas in the district, where rice is cultivated

extensively both in wet and dry season. More over, the farmers were exposed to hybrid rice through extension network of the state department of agriculture. A total of 104 farmers growing high yielding varieties and exposed to hybrid rice were randomly selected from 14 villages *i.e.* 7 from each block. Information were collected personally through a structured schedule.

Perception of the rice growers towards hybrid rice, ecological condition, input supply, advisory services and policy considerations were selected as the variables for the study. Responses were collected on a three-point continuum having the maximum obtainable score of 3 over each statement. Mean scores were calculated from each statement and percentage of gap was assessed from the highest score of the three. Coefficient of correlation test was also applied to assess the relationship of the socio-economic variables with perception towards hybrid rice cultivation taking the total score on perception and the scores obtained under selected socioeconomic variables of each respondent.

RESULTS AND DISCUSSION

Hybrid rice cultivation requires more care and management. Perception of the respondents towards hybrid rice (Table 1) revealed that the rice growers did not perceive much for disease/ pest attack, market

Table 1. Perception about hybrid rice

Perception	Percentage			Mean score	Gap (%)
	Strongly agree	Agree	Disagree		
High yielder	46.16	34.62	19.23	2.27	24.33
Low seed rate	34.62	30.76	34.62	2.00	33.33
Profuse tillering	34.62	38.46	26.92	2.08	30.67
More grain in panicle	34.62	42.31	23.07	2.12	29.33
Quality grain	26.92	34.62	38.46	1.88	37.33
Easy to cultivate	26.92	26.92	46.16	1.81	39.67
Responsive to fertilizer	46.16	38.46	15.38	2.31	23.00
Pest/disease attack	19.23	23.08	57.69	1.62	46.00
Market demand	26.92	30.77	42.31	1.04	35.67
Average				2.08	30.67

demand, easy cultivation and grain quality. On the whole, the respondents had good perception towards hybrid rice considering the average mean score of 2.08 out of highest score of 3.

Ecological condition, input supply advisory services and policy support are essential for diffusion and area expansion of hybrid rice. Perception of the respondents towards their ecological condition for hybrid rice cultivation indicated (Table 2) that majority of the rice growers had better perception of the soil type and fertility status suitable for hybrid rice cultivation. Mixed perception was also reflected on climate, rainfall and temperature. Since the average mean score towards perception of ecological condition was 2.15 out of total score of 3, it was presumed that the respondents had good perception of the suitable ecological condition for hybrid rice cultivation.

Easy availability of inputs in time and affordable price very often motivate farmers to practice new innovations. Since hybrid rice cultivation has recently been introduced, input availability was very much essential in diffusion and area expansion. The findings revealed that (Table 3) fertilizers, plant protection chemicals, irrigation and labour force were available for hybrid rice cultivation. But the respondents were doubtful for the availability of quality seeds of preferable variety and to some extent credit facilities.

The findings in Table 1 indicate the low perception of quality grain, disease/ pest attack and poor market demand of the hybrid rice. As hybrid rice requires more fertilizer, plant protection chemicals etc., the growers need some credit facilities.

Access to information and bridging the communication gap was the prime requirement in successful crop raising (Singh 1995). Thus, good extension support was required to change the behaviour of the rice growers in acquiring knowledge and skill in adoption of hybrid rice. But data indicated (Table 4) that the respondents had very poor perception about advisory support as overall gap of 49% was observed with variation of 44 to 52% on different extension activities. Training, demonstration and exposure visits are required for skill up-gradation and confidence development. Literature acts as reference material. Timely guidance helps in management of various operations. When all these facilities were not extended to rice growers in the present scenario, the respondents expressed low perception for the various extension support towards hybrid rice cultivation.

Moreover, hybrid rice cultivation was comparatively costly, risky and required more management practices compared to other varieties. Government policy particularly procurement, subsidy and incentives very often motivate to adopt new technologies. The data collected on perception towards government policy system revealed (Table 5) that majority of the respondents stated for non-availability of the policy support particularly subsidy facilities (82.69%), remunerative price (57.69%) and incentives (55.77%) as impediments.

In general, the perception of the respondents towards Government policy support was not satisfactory as an overall gap of 48% was observed. Since, hybrid rice cultivation was a new approach, incentive of any kind such as easy procurement with

Table 2. Perception towards ecological conditions

Condition	Percentage			Mean score	Gap (%)
	Most suitable	Suitable	Not suitable		
Soil type	50.00	34.62	15.38	2.35	21.67
Soil fertility	50.00	34.62	15.38	2.35	21.67
Climate	36.42	42.31	23.07	2.12	29.33
Temperature	30.76	34.62	34.62	1.96	34.67
Rainfall	34.62	30.76	34.62	2.00	33.33
Average				2.15	28.33

Table 3. Perception towards input supply

Input	Percentage			Mean score	Gap (%)
	Available	Occasionally available	Not available		
Preferable variety	25.96	23.08	50.96	1.75	41.67
Quality seed	21.15	24.04	54.81	1.66	44.67
Fertilizer	86.54	13.46	-	2.87	4.33
Plant protection chemical	73.08	25.00	1.92	2.71	9.67
Irrigation	78.85	18.27	2.88	2.76	8.00
Labour force	38.46	46.15	15.39	2.23	25.67
Credit facility	22.12	53.85	24.03	1.98	34.00
Average				2.28	24.00

Table 4. Perception towards advisory services

Service	Percentage			Mean score	Gap (%)
	Available	Occasionally available	Not available		
Training	13.46	23.08	63.46	1.50	50.00
Demonstration	7.69	34.62	57.69	1.46	51.33
Exposure visit	9.62	24.03	66.35	1.43	52.33
Literature supply	17.31	23.08	59.61	1.58	47.33
Timely guidance	18.27	30.77	50.96	1.67	44.33
Average				1.53	49.00

Table 5. Perception towards Government policy system

Policy	Percentage			Mean score	Gap (%)
	Available	Occasionally available	Not available		
Incentives	13.46	30.77	55.77	1.58	47.33
Insurance	26.92	28.85	44.23	1.83	39.00
Subsidy	5.77	11.54	82.69	1.23	59.00
Procurement	7.70	46.15	46.15	1.23	59.00
Remunerative price	3.85	38.46	57.69	1.42	52.67
Average				1.56	48.00

remunerative price, subsidy facilities and crop insurance were essential components for motivating the rice growers for adoption of hybrid rice.

Socio-economic background of the farming community had definite influence on adoption of new practices. The socio-economic background of the respondents were scored following the scale developed by Trivedi and Pareek (1972) and correlated with the score obtained on the perception of different aspects of hybrid rice. It was observed in Table 6 that, education, extension contact, holding size and possession of farm implements had positive and significant relationship with perception towards hybrid rice. It indicated that the farmers having better education, more holding size, possession of farm implements and more extension contact have better perception towards hybrid rice cultivation.

Table 6. Influence of socio-economic variable on perception of hybrid rice

Variables	'r' value	't' value
Age	-0.087	0.882
Education	0.303**	3.211
Caste	0.137	1.397
Extension contact	0.543**	6.529
Holding size	0.285**	3.005
Possession of farm implements	0.391**	4.293
Annual income	0.109	1.172

It was observed from the study that the rice growers had good perception towards hybrid rice and suitable ecological conditions for its cultivation. They were doubtful in getting quality seeds of acceptable variety and credit facilities. However, they were confident for the availability of other essential inputs. Perception on poor extension support like training, demonstration, exposure visit, literature supply and timely guidance restricted them to accept hybrid rice.

The study therefore concludes that supply of quality seeds of preferable varieties, procurement with remunerative price and strong extension support were key components required for popularization of hybrid rice cultivation. Educational background, extension contact, possession of farm implements and holding size positively influenced the perception of the rice growers on hybrid rice cultivation.

REFERENCES

- Janaiah A 1995. Economic potential of hybrid rice technology in India, Manual on hybrid rice seed production technology, DRR, Hyderabad.
- Singh M 1995. Effective communication for dissemination of hybrid rice technology, Manual on hybrid rice, DRR, Hyderabad.
- Trivedi G and Pareek U 1972. Socio-economic status scale (Rural) In: Measurement in Extension Research. Instruments developed at IARI (1963-1972), Division of Agricultural Extension, IARI, New Delhi pp.1-15