

PalArch's Journal of Archaeology
of Egypt / Egyptology

**AN EMPIRICAL ANALYSIS OF CONSTRAINTS FACED BY CHILLI
GROWERS AND MARKET INTERMEDIARIES IN PRODUCTION
AND MARKETING OF CHILLI IN SINDH, PAKISTAN**

**Meharul Nissa Rais^{1*}, Tahmina Mangan^{1*}, Jam Ghulam Murtaza Sahito¹
Naeem Ahmed Qureshi², Mehar UINissa Sial¹ and Abdul Nasir¹**

¹Department of Agricultural Economics, Sindh Agriculture University, Tandojam-Pakistan.

²Department of Statistics, Sindh Agriculture University, Tandojam-Pakistan.

Meharul Nissa Rais , Tahmina Mangan , Jam Ghulam Murtaza Sahito , Naeem Ahmed Qureshi , Mehar UINissa Sial and Abdul Nasir , An Empirical Analysis Of Constraints Faced By Chilli Growers And Market Intermediaries In Production And Marketing Of Chilli In Sindh, Pakistan , Palarch's Journal Of Archaeology Of Egypt/Egyptology 18(7). ISSN 1567-214x.

Key words: Chilli, Growers, Production, Marketing and Constraints.

ABSTRACT:

The present research study was conducted to determine the constraint in production and marketing faced by chilli farmers and markets intermediaries in Sindh, Pakistan. Three districts were selected of the Sindh province i.e. Umerkot, Khairpur and Sanghar for this research. Data were collected through personal interview from four villages and 120 selected respondents from each district with the help of well-structured questionnaire. The collected information from the chilli growers revealed that major constraints were insect pests and disease problem (82%), lack of modern irrigation system (76%), imbalance use of fertilizer and pesticide (75%), lack of training (70%) respectively. In marketing side major constraints were commission agent charges are not reasonable (76%), price fluctuations (56%) and lack of proper storage facilities (47%) recorded in Sindh. Furthermore lack of grading facility (90%) was the major constraints faced by the chilli traders in study areas. Lack of storage facility (77%) was recorded as a second highest

constraints faced by the traders followed by high risk is involved in selling of chillies distant places (73%) in Sindh. Based on the findings it is suggested that proper trainings and extension services may be start with special reference to proper production technology. Chilli farmers are also suffering due to improper weight and measure by traders and commission agent, it is therefore suggested commercial bank, regulated markets and co-operative marketing society should adopt flexible lending policy to suit the need of the farmers on the security of chilli crop.

INTRODUCTION:

Chilli (*Capsicum annum* L.) is one of the essential vegetable crops, which is cultivated almost all around the world over an area of 1.856 million hectares with a production of 4.626 million tons [1]. In world Chilli is raised over an area of 2020 thousands hectare with a production of 3762 thousand tones [2]. Nutritionally it is a rich source of vitamin A, C, E, P and contains medicinal properties [3]. In Asia, Pakistan is the world leader delete of chilli production followed by China, Thailand and India [4]. In Pakistan, Sindh province is the major producer of chilli crop followed by the Punjab and Baluchistan [5]. It is not only used as food but also as main flavouring spice in the country cuisine. Pakistan was the 5th largest exporter but facing continues decline in its production due to various problems [6]. Though, the demand of chilli is increasing for export and home consumption, but the current production of chilli in the country are very insufficient, production and marketing of chilli are decreasing day by day due to many reasons [7], being only about one-fourth to one-third of the requirement [8]. [9] Reported that constraints in production and marketing of chillies are real hindrance for economic condition of farmer in the India. In order to fulfill the demand of the country, it is important that the production of chilli should be increased considerably [10]. This can be achieved by increasing the present area under chilli and also by increasing the productivity per unit of area by adopting better and improved chilli production technology [11]. The technological gap may be one of the reasons for the low yield and also the chilli growers are facing the problem in production as well as marketing. In order to solve the problem, the opinion of chilli growers in the form of their suggestions must be considered for the solution of the problems. The aim of the present study is “to identify various constraints faced by the chilli growers during the production and marketing of chilli in Sindh”. The information regarding related problems about chilli production and marketing will be useful for the farming community, who want to substitute this crop for the traditional cops grown in the area.

PROBLEM STATEMENT:

Production of chillies in Pakistan show decreasing trends as compared to other countries of the world, it is clear from the data that chilli production decreased from 5.54% in year 2007 and to 3.2% in year 2017 as compared to other countries such as India from where chilli production increases from 32.06% in year 2007 and to 45% production in year 2017 and china from 10.65% in year 2008 and to 6.79% in year 2017. Similar is the case with production of chillies in Sindh province, recent year's trends of production of chillies in Sindh show reduction as in year 2009-10. Production of chilies in Sindh was 172.8 thousand tons that decreased to 126.2 thousand tons in year 2016-17. Not only in production but there are also issues with the export of chilli from Pakistan to other countries as data show that amount of chillies exported from Pakistan declined from 3.585 thousand tons in year 2009-10 to 3.268 thousand tons in year 2017-18. Similarly marketing system of chillies in Sindh also shows inefficiencies and price fluctuations. Sindh

Province of Pakistan although have high potential and comparative advantage of producing with reference to type of soils and weather of main chilli growing areas of Sindh which are best suited for production of chillies but due to different reasons growers of chillies are unable to capture full potential of growing chillies. This study is undertaken with the aim to contribute in identifying major constraints in production and marketing of chilli faced by chilli growers.

MATERIALS AND METHODS:

For present study three districts of Sindh province i.e. Khairpur, Sanghar and Umerkot were selected purposively based on availability of chilli growers. Two union councils from each district were selected and from each union council 10 chilli growers, 10 middle man (who purchase chillies from farmer at farm gate), 10 middleman (who are sitting in the villages and farmers sell their chillies to them), 10 wholesalers, commission agents-cum-wholesalers and retailers respectively was selected for question. The total sample size of this study comprised of 360 respondents. The data were collected with the help of a pre-tested and validated interview schedule based on a descriptive method. A questionnaire was designed to get information regarding the constraints of production and marketing of chilli growers and market intermediaries. We applied arithmetic mean and "Z" score method for ranking the constraints, data analysis were done by using following formulas;

PERCENTAGE FORMULA:

It was calculated by using following formula:

$$P = \frac{F}{N} * 100$$

F = frequency/sample of respondent

N = total number of respondent

ARITHMETIC MEAN FORMULA:

Sum of all observation divided by total number of observation

It was calculated as: $\bar{X} = \frac{\sum xi}{n}$

\bar{X} = sample mean

$\sum xi$ = sum of all observation
n = number of observation

The collected data was coded and analyzed using statistical package for social sciences (SPSS, 20.0).

RESULTS AND DISCUSSION:

The problems in production, marketing and traders faced by chilli growers and intermediaries are presented in this section:

Constraints faced by growers in chilli production

It is depicted from the table 01 that the major constraint faced by the chilli growers in the production of chillies were insect pests and disease problem (82%) in Sindh. Due to attack of insect pest and diseases the chilli crop gradually decreased in quantity and quality same problem addressed by [7] and [8] they confirmed that insect pest is a sever and top majority problem expressed by chilli farmers in India. [12] stated that the majority of chilli growers expressed that chilli crop suffering due to attack of insect pest disease in Nagaland. Second major problem was

Lack of modern irrigation system (76%) in the study area. followed by imbalance use of fertilizer and pesticide (75%), Lack of suitable weedicide (71%), availability of good quality pesticide (71%), lack of trainings is an important factor causing in low production of chili in Sindh [6]. Our findings revealed that during survey the 70% of chilli growers expressed that we are facing lack of trainings about proper production technology. Furthermore, survey results of [13] are very similar with our research results, they stated that the chilli growers of India also facing many problems in cultivation of chilli. Un-availability of irrigation water at the time of chilli ripening reduces the quality and quantity of the chili crop in Sindh [14]. Additionally, [15] reported that the poor production technology always reduce the yield of chili crop in Punjab. Also, [16] reported that the production technology of chili accounting environmental factors including irrigation water scarcity, soil degradation and un-judicious usage of chemicals.

Table 1: Problem faced by chilli growers in chilli production in Sindh (%).

Constraints	Khairpur	Sanghar	Umerkot	Mean	Rank
Insect pests and disease problem	82	80	85	82	I
Lack of modern irrigation system	74	75	81	76	II
Imbalance use of fertilizer and pesticide	77	70	79	75	III
Lack of suitable weedicide	68	70	76	71	IV
Availability of good quality pesticide	67	72	76	71	V
Lack of training	69	71	72	70	VI
Knowledge of chilli weed identification	66	68	74	69	VII
Gap between grower and extension worker	60	70	80	70	VIII
Lack of technical assistance	62	66	73	67	IX
Lack of training for pickers	51	65	70	62	X
Knowledge of proper production technology	56	55	71	60	XI
Lack of credit facility	55	60	64	59	XII
Availability of healthy seed/diseased free	63	51	50	54	XIII
Mismanagement irrigation water	49	52	64	55	XIV
Lack of financial security and crop insurance in crises. Flooding, Rain etc	60	50	41	50	XV
High yielding chilli varieties	43	51	55	49	XVI
Availability of transport	41	49	55	48	XVII
Availability of resistant chilli varieties	41	50	50	47	XVIII
Lack of source of information	45	43	52	46	XIX
Lack of fertilizer (DAP, Urea)	41	45	53	46	XX
Availability of the electricity for tube well water	26	45	66	45	XXI
Lack of soil testing facility	41	42	51	44	XXII
Lack of farm yard manure	31	50	53	44	XXIII
Availability of land preparation machinery (Tractor)	37	44	49	43	XXIV
Lack of good quality nursery	41	55	32	42	XXV
Shortage of irrigation water	30	33	62	41	XXVI
Availability of labour	50	25	36	37	XXVII

Soil Salinity /fertile soil	12	36	41	29	XXVIII
-----------------------------	----	----	----	----	---------------

Source: Compiled from Primary Data

Constraints faced by the chilli growers in chilli marketing

The constraints faced by chilli growers in marketing are given in table 2, it was observed that major chilli marketing problems for producer were commission agent charges are not reasonable (76%), malpractice in weighment (76%), price fluctuations (56%) and lack of proper storage facilities (47%) in Sindh. Same issues were addressed by [10] price fluctuations and grading facilities are the major constraints in chilli marketing in India. However, [17] reported that 90-93% chilli growers are facing problems in malpractice in weighment in the markets of Punjab, Pakistan. Due to hindrance in the marketing channels the chili grower could not earn the proper profit from chili crop in Pakistan [18].

Table 2: Constraints faced by the chilli growers in chilli marketing (%) in Sindh.

Constraints	Khairpur	Sanghar	Umerkot	Mean	Rank
Commission agent charges are not reasonable	77.21	72.25	79.52	76	I
Malpractice in weighment	70.12	79.14	79.14	76	II
Price fluctuations	55.52	55.24	56.25	56	III
Regulated markets are not near to village	66.12	56.21	33.52	52	IV
Commission agents	56.41	52.36	40.25	50	V
Lack of proper storage facilities	55.20	49.80	36.12	47	VI
Not getting remunerative prices	45.21	36.87	50.20	44	VII
Irregular payment by intermediaries	41.52	40.02	39.29	40	VIII

Source: Compiled from Primary Data

Opinion of market intermediaries in marketing of chilli

Table 3 indicate the constraints faced by the market intermediaries, lack of grading facility (90%) was the major problem faced by the traders in study areas. Lack of storage facility (77%) was recorded as a second highest problem faced by the traders followed by high risk is involved in selling of chillies distant places (73%) in Sindh. [19] conducted survey and interviewed the chilli growers and market intermediaries regarding their problems also [9] reported that grading and storage facilities are the major problems at production and marketing level and grading should be done at production level.

Table 3: Constraints faced by market intermediaries (%) in Sindh.

Constraints	Khairpur	Sanghar	Umerkot	Mean	Rank
Lack of grading facility	90.25	90.41	90.25	90	I
Lack of storage facility	80.47	77.52	71.54	77	II
High risk is involved in selling of chillies distant places	71.52	70.25	77.63	73	III
Labour problem due to pungency	77.52	60.25	62.14	67	IV
Sprinkling of water by producer	76.51	73.52	41.98	64	V

No grading at production level	51.42	42.87	39.54	45	VI
--------------------------------	-------	-------	-------	----	-----------

Source: Compiled from Primary Data

CONCLUSION:

It is concluded from the present findings that the chilli farmers are facing lot of problems during cultivation of chilli; a series of problems starts from land preparation-seed sowing up to harvesting at field. Similarly, from harvesting to marketing level chilli farmers have many constraints and hindrances. Further, high labour charges, low price of chilli in the market, lack of training regarding recommended chilli production technology, electricity problem, unavailability of agriculture related information. Due to these constraints chilli farmers of Sindh province could not getting proper profit and returns.

POLICY SUGGESTIONS:

Based on the findings it is suggested that:

- The proper trainings may be given to chilli farmers at farm level for the proper usage of pesticide against insect pest and diseases of chilli crop.
- It is the very important that extension services may be start with special reference to Soil testing facility, use of optimum fertilizer or farm yard manure, weed management , healthy seed and nursery management.
- Prices of agricultural commodities (inputs) (seeds, fertilizers, insecticides) should be less
- Chilli farmers are also suffering due to improper weight and measure by traders and commission agent it is therefore suggested commercial bank, regulated markets and co-operative marketing society should adopt flexible lending policy to suit the need of the farmers on the security of chilli crop.

ACKNOWLEDGMENT:

Present work is the part of PhD thesis research conducted by MeharUINissa Rais underkind supervision of Professor Dr. Tahmina Mangan at Department of Agricultural Economics, Sindh Agriculture University, Tandojam-Pakistan.

I feel pleasure to acknowledge the contribution of Australian Center for International Agricultural Research (ACIAR) funded horticultural markets project team for guidance and input.

REFERENCE:

- Mondal, B. and P. Mondal. (2012). Eco-friendly pest management practices for leaf curl complex of chilli *Capsicum annum* (L.). *Journal Bio-pest*, 4: 115-118.
- Jorwar, R.M, S. M Sarap and VU Chavan.(2018). Economics of production and marketing of chilli in Amravati district.*Journal of Pharmacognosy and Phytochemistry*. 7(2): 310-316.
- Adil, S. A., H. Badar and T. Sher.(2004). Factors affecting gross income of small farmers in district Jhang-Pakistan.*Pakistan Journal Life Society Science*, 2 (2):153-155.
- Channa, M. H., M. Sial, G. N. Dahri, A. S. Jamro, T. Solangi and A. N. Aamir. (2020). Measuring Profitability of Chilli Pepper Production in Sindh, Pakistan. *Journal of Economics and Sustainable Development*, 08 (11): 81-89.
- Khokhar, K.M. (2018). Present status and prospects of chillies in Pakistan. *Agriculture corner*, 21-26.

- Saima, A. (2019). Scenario of chilli production and hindrances faced by the growers of Sindh province of Pakistan. *Modern Concepts & Developments in Agronomy*, 4 (3): 436-442.
- Geetha, R. and K. Selvarani.(2017). Constraints and Suggestions of Chilli Growers in Virudhunagar District. *International Journal of Sustainable Development*, 3 (1): 2395-4396.
- Peer, Q. J., A. Ahmad, N. Kumar, S. Nabi and M. H. Chesti. (2020). Socio economics profile of chilli growers in District Baramulla (J & K). *Current Journal of Applied Science and Technology*, 39 (10): 135-141.
- Rajur, B. C., B. L. Patil, and H. Basavaraj.(2008). Economics of chilli production in Karnataka. *Karnataka Journal of Agricultural Science*, 21 (2): 237-240.
- Muhammad, T. Iqbal., K. Qamar., A. Muhammad and W. Muhammad.(2017). Economic analysis of open field chilli (*Capsicum annuum* L.) production in Punjab, Pakistan. *Journal of Experimental Biology and Agricultural Sciences*, 5 (1): 11-15.
- Qamar, A., M. Tarique and A. Muhammad. (2016). Resource Use Efficiency and Return to Scale Analysis in Off-Season Capsicum/Bell Pepper Production in Punjab, Pakistan. *Advances in Environmental Biology*, 7 (1): 5-12.
- Pradeep, K. S. and S. J. Manoraj. (2020). A study on price spread in dry chilli marketing among its various marketing channels. *Journal of xidian university*. 3 (6): 2667-2673.
- Reddy, V., P. K. Wakle, N. R. Koshti and A.M. Sonkamble.(2017). Constraints and suggestions of the Chilli farmers in BhiwapurPanchaytSamiti of Nagpur District. *Journal of Pharmacognosy and Phytochemistry*, 5 (9): 625-628.
- Khan, H. (2012). Measurement of technical, allocative and economic efficiency of tomato farms in Northern Pakistan. *Journal of Agriculture Science Technology*, 2: 1080- 1090.
- Adil, S. A., H. Badar and T. Sher.(2004). Factors affecting gross income of small farmers in district Jhang-Pakistan. *Pakistan Journal Life Society Science*, 2 (2): 153-155.
- Mari, F. M. (2009). Structure and efficiency analysis of vegetable production and marketing in Sindh, Pakistan. Ph.D. thesis. Sindh Agriculture University, Tando Jam, Pakistan.
- Gohain, N. and S. Sukhpal. (2018). An Analysis of Problems and Constraints Faced by Farmers in Marketing of Agricultural Produce in Punjab. *Journal of Economic Affairs*, 63 (3): 671-678.
- Kaur.G. and K. S. Sangha. (2016). Diversity of arthropod fauna associated with chilli (*Capsicum annuum* L.) in Punjab Gurlaz. *Journal of Entomology and Zoology Studies*, 4 (5): 390-396.
- Dangore, U. T., A.K. Bahekar, S. B. Datarkar and A.S. Darekar. (2015). Constraints faced by dry chilli growers in production and marketing of dry chilli in Wardha district of Maharashtra. *Agriculture update*, (10) 3: 252-254.