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RESEARCH ARTICLE

CONSTRAINTS FACED BY THE OFF SEASON CUCUMBER GROWERS IN MOKOKCHUNG DISTRICT OF NAGALAND

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ABSTRACT

The present study was undertaken on 120 farmers during 2015-16 in the hilly terrace of Mokokchung district of Nagaland. The study was undertaken to access the constraints faced by the off season cucumber growers of the said districts. Further, constraints was recorded in five sub categories viz., inadequate climatic conditions, technological constraints, infrastructural constraints, economical constraints and marketing constraints. Results revealed from the study that infrastructural constraints was the most prioritized area to be concern about and under that highest 91.66 per cent faced problems for lack of proper irrigation facilities. However it was recommended that policy makers should give much attention to avail the proper irrigation facilities and that to on time.

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INTRODUCTION

Cucumber (*Cucumis sativus*) is a widely cultivated plant in the gourd family, Cucurbitaceae. It is a creeping vine that bears cucumiform fruits that are used as vegetables. There are three main varieties of cucumber: *slicing*, *pickling*, and *seedless*. Within these varieties, several cultivars have been created. Pinpointing ancient cucumber's origin is difficult, as no wild strains have been found. If one believes botanist Alphonse de Candolle (1806-1893), cucumbers originated in India roughly 3,000 years ago, specifically in the Himalayas throughout the northern Bay of Bengal. China first grew the cucumber sometime between the 2nd and 6th century, and dispersed it throughout other regions of Asia including Malaysia, Indonesia and Korea. Incredible cucumber diversity comes from China, and 2011 figures from the UN's Food and Agriculture Organization reveal that the nation today accounts for 72 per cent of the world's cucumber production. As was de rigueur for European royalty, France's Charlemagne grew cucumbers in his garden during the 9th century, and England grew them later during the 1300s. The fruit was one of many carried to the New World by Christopher Columbus, who introduced them to Haiti and other islands in the 1490s. Soon after, Central and South America began growing cucumbers and later on other countries also adopted the same. India ranks 30th in global cucumber production, and its total output of 161,000 metric tons accounts for less than one percent of the world's supply. These fruits are, however, still available year-round on the cheap. And not just one variety, either: a single, nondescript store can sell 4 different types. Long, thin plastic wrapped English cucumbers fetch the highest price, and the large round pale yellow cucumbers remain inexpensive. Cucumbers thrive in India's warm climate, and they grow prolifically in southern states of Karnataka, Tamil Nadu, Andhra Pradesh and in the North-eastern regions. Nutrient-rich cucumbers provide a number of health benefits. Cucumbers are a great source of silica, a trace mineral that strengthens connective tissues. These connective tissues are imperative for muscles, tendons, bone, cartilage, and skin health. Cucumbers also have caffeic and ascorbic acid; compounds rectify skin swelling, fluid retention, burns and itchiness. A 2009 study published in *Current Pharmaceutical Design* explains that cucurbitacins have immense promise as an inflammation drug and in cancer therapy drugs based on their apoptotic effects against cancer cell lines. Indeed, several reports, such as a 2013 study published in the *International Journal of Health*

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Sciences, point to the anti-proliferative ability of cucurbitacins when tested against breast cancer, uterine cancer, lung cancer, ovarian and prostate cancer cells. Cucumber has been traditionally cultivated by Naga farmers in their jhum fields as a mixed crop during the Kharif season (April to August). It is one of the important component crops in the Jhum field and the harvest is used, mostly for household consumption and sometimes sold at the local market. Kharif crops of cucumber are harvested during rainy seasons and do not fetch a good price due to large production during the peak season. However there is high market demand of cucumber during off season knocks the concern farmers to cultivate off season cucumber. Today, the 'off-season' cucumbers from different districts of the Nagaland especially from Mokokchung district have gained much popularity within the state and now it has become a trend amongst the farmers in the district. The farmer from the mentioned district not only produces the cucumber but also act as a supplier of seeds. Indeed the positivity of income level farmers also facing various difficulties to grow cucumber during off-season. Therefore a study has been undertaken to know the "Constraints Faced by the off season Cucumber growers in Mokokchung district of Nagaland".

MATERIALS AND METHODS

The present study was conducted in Mokokchung district, which was randomly selected out of the eleven districts of Nagaland. Further two rural development (RD) blocks viz; Ongpangkong South and Kubulong were selected randomly under this district and one village was randomly selected from each of these two RD blocks. The selected villages included Aliba from Ongpangkong South block and Sungratsu from Kubulong block respectively. The list of all the off season cucumber growers in the selected villages was prepared and about 120 off season cucumber growers were selected for the study.

RESULTS AND DISCUSSION

Results perceived from the Table 1 are mentioned in five subsequent sections and were described below:

Inadequate climatic conditions

Under the inadequate climatic conditions majority 84.14 per cent of the respondents faced problem due to pest and disease incidence followed by 76.67 per cent of them faced problem due to infertile soil condition and only 38.33 per cent of them faced problem due to moisture stress during crop growth period

Technological constraints

Under this sub category 88.33 per cent of the respondents faced problems for lack of technical know-how about the application of fertilizer, pesticides and weedicides is also responsible for not achieving the desired goal followed 45.83 per cent of the respondents faced problems due to lack of knowledge about suitable varieties to be grown.

Infrastructural constraints

Infrastructural constraints recorded highest problem facing area among the different sub categories and under this highest 91.66 per cent of the respondents faced problems for lack of proper irrigation facilities followed by 83.33 per cent of the respondents faced problems due to unavailability of adequate seed materials, 65.83 per cent faced problem due to non-availability of agricultural chemicals in time and 59.16 per cent of them faced problems due to inability to purchase or hire modern agricultural implements

Economical constraints

Among the different economical constraints majority 86.66 per cent of the respondents found constraints about non-availability of labour during peak period followed by 82.50 per cent of them faced similar problem due to non-availability of timely credit facilities, 80.83 per cent also faced problem due to high cost of agricultural chemicals. Further 73.33 per cent respondents faced problems due to non-availability of processing industries (Value addition) and only 0.07 per cent faced problem due to low selling price during off season and it may be because they did not maintain the time and place to be

Table 1. Constraints as responded by farmers in production of groundnut

S/N	Constraints	Frequency	Percentage	Rank
A	Inadequate climatic conditions			
i.	Infertile soil condition	92	76.67	II
ii.	Pests and disease incidence	101	84.16	I
iii.	Moisture stress during crop growth period	46	38.33	III
B	Technological constraints			
i.	Lack of technical know-how	106	88.33	I
ii.	Lack of knowledge for suitable variety	55	45.83	II
C	Infrastructural constraints			
i.	Non-availability of quality planting materials	100	83.33	II
ii.	Inability to purchase or hire modern agricultural implements	71	59.16	IV
iii.	Lack of irrigation facilities	110	91.66	I
iv.	Non-availability of agricultural chemicals in time	79	65.83	III
D	Economical constraints			
i.	High cost of agricultural chemicals	97	80.83	III
ii.	Non-availability of timely credit facilities	99	82.50	II
iii.	Non-availability of labour during peak period	104	86.66	I
iv.	Low selling price	8	0.07	V
v.	Non-availability of processing industries (Value addition)	88	73.33	IV
E	Marketing constraints			
i.	Exploitation of private traders	21	17.50	IV
ii.	Shortage and high cost of packing materials	36	30.00	III
iii.	Inadequate transport facilities	101	84.16	II
iv.	Shortage of cold storage	105	87.50	I

grown during off season and they may not be concern about demand and supply chain.

Marketing constraints

Marketing constraints is a major area to be focused on. After fruitful production also if we cannot marketed our produce at a right time, right place and at a right price then the produce may not get its real price. Here also off season cucumber farmers faced problems due to marketing and under this 87.50 per cent of the respondents faced problem as because of shortage of cold storage facilities followed by 84.16 per cent faced problems for inadequate transport facilities, 30.00 per cent faced problem for shortage and high cost of packing materials and 17.50 per cent faced problems for exploitation of private traders.

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