Assessment of Marketable and Marketed Surplus of Maize in District Varanasi of Uttar Pradesh

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Abstract-An attempt has been made to assess the marketable and marketed surplus of Maize on marginal, small and medium farms of district Varanasi in Uttar Pradesh. The required information on production and marketing of Maize has been collected from 60 farmers of marginal, small and medium categories selected for the study. The estimates of marketable and marketed surplus of Maize reveals the range of 80 to 93 percent of its total produce on marginal, small and medium farms in the study area.

***Index Terms*: Maize, marginal farmers small, Marketable surplus, marketed surplus**

I. INTRODUCTION

Maize is one of the important food grain crops in the world. Apart from its use as a food grain for human consumption, it is being used for manufacturing industrial products like starch, syrup, alcohol, acetic acid, lactic acid, glucose, paper, rayon, plastic, textile, adhesive, dues, synthetic rubber etc. In addition, it is also used as an important feed and fodder for animals. The major maize producing countries in the world are United States of America, China, Brazil, Mexico, France, Argentina, Romania, India, Indonesia and South Africa. India ranks fifth in the terms of area under the crop and eight in terms of maize grain production.

In India, the major maize growing states are Uttar Pradesh, Bihar, Karnataka, Rajasthan and Madhya Pradesh. The surplus of the maize produce with farmers is made available to the non-farm population. There are several studies carried on marketed and marketable surplus of food grain crops. The marketed surplus of Wheat has been estimated by Chaudhary and Pandey (1) in Union Territory of Delhi and by Goel and Mittal (2) in Ludhiana district of Punjab. Kainth (3) studied the production and marketed surplus of food grains in Punjab. Wheat marketing in Eastern Uttar Pradesh has been studied by Mishra et. al. (4). Nandkarni (5) has estimated the marketed surplus of Millets. The factors influencing the marketed and marketable surplus of major crops in Morena district have been identified by Sharma et. al. (6). Sharma (7) analyzed the marketable and marketed surplus of Rice and Wheat. The production and marketing of Paddy has been studied by Hota (8). The present study has been conducted by Shreya Yadav to estimate the marketable and marketed surplus of maize in Varanasi District of Uttar Pradesh for her M.Sc. (Ag.) thesis.

II. RESEARCH METHODOLOGY

A sample of 30 farmers has been appropriately selected for the study. The sample contains 10 marginal farmers, 10 small farmers and 10 small farmers. The farmers with holding size below I hectare, 1 to 2 hectares and 2 to 4 hectares have been categorized as Marginal, Small and Medium farmers respectively. The sampling details are presented in table 1.

Table 1- Average size of holdings of sample farmers

Farm Size	Number of sample farmers	Net cultivated area (ha.)	Average size of farm (ha.)
Marginal (below 1 ha.)	10	7.3	0.73

Small (1-2 ha.)	10	12.17	1.217
Medium (2-4 ha)	10	23.17	2.317

The required information for the study has been collected through well-structured questionnaire. The collected information has been analyzed to estimate the marketable and marketed surplus of maize. Marketable surplus: The marketable surplus is the residual left with the producer farmer after meeting his requirement for family consumption, farm needs and feed for cattle, payment to labor in kind and social and religious payments in kind.

This may be expressed as follows:

MS=P-C

Where,

MS = Marketable surplus

P = Total production

C = Total requirement (family consumption, farm needs, payments to labor etc.)

Whereas the marketed surplus is that quantity of the produce which the producer farmer actually sells in the market, irrespective of his requirements for family consumption, farm need and other payments.

III. RESULTS AND DISCUSSION

The marketable and marketed surplus of maize have been estimated for the sample farmers. The marketed surplus of maize of maize of marginal, small and medium farmer is given in table 2.

Table 2- Marketable surplus of maize

Farm Size	Total Output (qtl.)	Retained at home (qtl.)	Marketed surplus (qtl.)
Marginal	247	37	210 (85.02)
Small	464	69	395 (85.12)
Medium	882	114	768 (7.07)

Note: Figures in parenthesis are the percentage to total output.

The total production of maize of marginal, small and medium farmer was 247, 464 and 882 qts. respectively. The requirement of maize for family consumption, payments to labor and other needs were 39, 69, and 114 qtl. on marginal, small and medium farms respectively. Hence the marketable surplus of maize on marginal, small and medium farms have been found 210, 395 and 768 qtl. respectively. The results reveal that 85 to 87 percentage of maize produced is the marketable with the farmers of the study area.

The marketed surplus of maize on marginal, small and medium farm has also been determined and given in table 2.

Table 3 – Marketed surplus of maize

Farm Size	Total Output (qtl.)	Retained at home	Marketed surplus
Marginal	247	17	230 (93.12)
Small	464	54	410 (88.36)
Medium	882	172	710 (80.50)

Note: Figures in parenthesis are the percentage to total output.

Marginal farmers sold 230 qtl. of maize out of total produce of 247 qtl. whereas small and medium farmers have sold 410 and 710 qtl. out of total produce of 464 and 882qtl. respectively. This reveals that marketed surplus has inverse relationship with size of farms.

Determinants of Marketed Surplus of Maize

The linear regression analysis has been carried out to identify the major factors determining the marketed surplus of Maize. The results of regression analysis are presented in table 4.

Table 4: Estimated coefficients of linear function of Marketed Surplus

Variables	Coefficients	Standard Error

Constant	4.23***	1.2536
Maize Production- X_1	0.713***	0.0332
Total Consumption- X_2	-0.045*	0.0026
Family Size- X_3	-0.254*	0.1823

Coefficient of multiple determination (R^2) = 0.693*, *** show the level of significance at 10% and 1% respectively.

The results revealed that the production, total consumption and family size were the major factors responsible for the significant impact on the amount of the marketed surplus of the Maize. The total production has shown the positive effect on the size of marketed surplus. While the total consumption and family size revealed the inverse relationship with the marketed surplus of Maize. Production was the major factor to increase the marketed surplus by 71.3 Kg. on an increase of one quintal of Maize output.

IV. SUMMERY AND CONCLUSION

The present study has been carried out to estimate the marketable and marketed surplus of maize on marginal, small and medium farms in district Varanasi. The estimate reveals that 85 to 87 percent produce of maize comes under marketable surplus on the sample farms. However, the range of marketed surplus was 93.12 percent on marginal farms, 88.36 percent on medium farms and about 80.50 percent on medium farms.

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