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⇒ **Research Design**: Selection of the district, Selection of Sub-division, Selection of Villages, Selection of the respondents, Selection of crops, Selection of Officers and Non-officers.

⇒ Data gathering procedure and statistical tools used, Data gathering procedure and method of enquiry, Statistical tools used, Tabular analysis, Average, Correlation coefficient, Multiple Regression analysis.

⇒ Other variables and their measurement

⇒ **Concept of variables**: Size of holding, Socio-economic status: Education, Age, Caste, Type of family, Scientific Orientation, Risk Orientation, Social participation

⇒ Infrastructure of fertilizer distribution agencies: Target and distribution of fertilizer

⇒ Preference for fertilizer distribution agencies and reasons thereof, Sources of information for judicious use of fertilizer

⇒ Problems faced in obtaining fertilizer through different fertilizers distribution agencies: Review of fertilizer distribution polices of Govt. Quasi Govt. and Private Agencies

⇒ Changes in fertilizer use and cropping patterns, Extent of irrigated area and consumption

⇒ Consumption of fertilizer by different categories of farmers in relation to cropping pattern: Causes of non application of recommended dose of fertilizers

⇒ Expression of other concepts used: Wheat and bajra growers, Total cost or total input cost, Fixed cost, Variable cost, Return to fertilizer use, Percentage return to fertilizer consumption, Benefit cost ratio, Test of knowledge level of the farmers, Test of application of NPK.
IV. **Description of the tract**

**District**: Location, topography, climate, rainfall, land utilization, soils, irrigation, source wise irrigation, classification in area under different crops, crop rotations production and average yield of main crops.

⇒ Consumption of fertilizers
⇒ Variation in fertilizers consumption (1970-71 to 1990-91)
⇒ Compound growth rate of fertilizers consumption
⇒ Population
⇒ Education
⇒ Forest
⇒ Electricity
⇒ Banks
⇒ Subsidy
⇒ Crop loans
⇒ Rajasthan at a glance.

V. **Findings**

A. **Farm structure**

⇒ Distribution of farm
⇒ Irrigation
⇒ Source of irrigation
⇒ Capital investment
⇒ Cropping intensity
⇒ Cropping pattern
⇒ Human labour
⇒ Utilization of family labour
⇒ Hired human labour
⇒ Utilization of bullock and tractor powers utilization

B. **Infrastructure**

**General information and socio economic status**

⇒ Socio Economic Status
⇒ Education level of selected farmers
⇒ Age group
⇒ Caste distribution
⇒ Type of family
⇒ Mechanization
⇒ Scientific orientation
⇒ Risk orientation
⇒ Participation in social organization
Infrastructure of fertilizer distribution agencies

⇒ Distribution of fertilizer, buffer, stocks, sale points and staff engaged in distribution
⇒ Preference of selected farmers for fertilizer distribution agencies
⇒ Distribution of fertilizer by different agencies to selected farmers
⇒ Reasons of liking preference of distributing agencies of fertilizer
⇒ Problems faced by the selected farmers

Policies of Govt. Quasi Govt. & Private Agencies

⇒ System of sale of distribution of fertilizers by different agencies
⇒ Policy implications of distribution of fertilizers by different agencies

Marketing policies

⇒ Transportation charges
⇒ Warehousing and storage of fertilizers
⇒ Sale tax of fertilizers

Prices and distribution policies of fertilizers

⇒ Quality control
⇒ Price control
⇒ Registration of selling
⇒ Subsidy
⇒ Marketing channel

Consumption pattern of fertilizers

⇒ Consumption of fertilizer in district Sawai Madhopur
⇒ Consumption pattern of different fertilizer under different category of farmers for different crops
⇒ Consumption of NPK of different categories of farmers for different crops
⇒ Consumption of fertilizer in relation to irrigation facilities in selected farmers
⇒ Suggestion of farmers
⇒ Suggestion of officials
⇒ Causes of non application of recommend doses of fertilizers
⇒ Multiple regression equation of selected independent variables associated with adoption of recommended doses of fertilizers
C. Crop enterprises analysis (Cost and return)

Cost and return analysis of wheat

Economic analysis of wheat

⇒ Distribution of cost on input factors per hectare on selected farms
⇒ Distribution of cost per hectare on input factors on wheat under different categories of farms
⇒ Physical output of wheat and its value per form and per hectare
⇒ Return of output value over operating and fixed cost per hectare and input out ratio and cost price ratio

Measure of farm profits and efficiency

⇒ Net income, family income and farm business income per hectare
⇒ Return to capital investment and per rupee return to fertilizer investment
⇒ Financial test ratio

Bajra

Economic analysis of Bajra

⇒ Distribution of cost per hectare on input factors
⇒ Distribution of cost per farm on input factors and their contribution in total cost under various categories of farms
⇒ Physical and monitory value of output
⇒ Return of gross output over operating and fixed cost per hectare and cost price ratio

Measures of farm profits and efficiency

⇒ Net income, family labour income and farm business income and their respective share on total value of output
⇒ Return to capital investment and per rupee of fertilizers consumption
⇒ Financial test ratio
⇒ Benefit cost ratio

VI. Regression analysis

I. Consumption function of fertilizer
II. Functional analysis and optimization of farm resources and maximization of wheat production
Production function of wheat
Wheat

⇒ Regression equation
⇒ Elasticity of production of farm resources
⇒ Marginal physical and value products of variable independent
⇒ Optimum and existing variable inputs and maximization of wheat production per hectare

Bajra

⇒ Regression equation
⇒ Elasticity of production of farm resources
⇒ Marginal physical and value products of various input variables
⇒ Optimum and existing levels of input factors
⇒ Optimization of input variables and maximization of Bajra production per hectare

VII. Summary

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