
The MAFAP Method of Price Incentive Analysis

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ABSTRACT

Generally the prices of any commodity is determined by the equilibrium between supply and demand in the global market. It indicates that the prices of commodities should also be same in different countries across the world. On the contrary, they vary from country to country mainly because of the government intervention through various schemes and policies regarding trade aspects. Owing to this reason, the domestic prices deviate from the international prices generating either incentives or disincentives to the actors in the supply chain. The measurement of this gap in the domestic and international prices as incentive or disincentive to the players is the main aim of the MAFAP methodology. Ordinarily price incentives are the external prompts such as subsidies, Minimum Support Prices (MSP), etc., provided to the producers to encourage their production despite the price fluctuations. Nevertheless, in accordance to MAFAP methodology, price incentives are the effects of food and agricultural policies that have an impact on domestic prices at different levels across the globe.

Monitoring and Analysing Food and Agricultural Policies, abbreviated as MAFAP was developed by FAO in the year 2009 to monitor and analyse African country policies. The application of MAFAP to analyse policies in the member countries of Food and Agricultural Organisation (FAO) upon their request was also observed in the later years.

The major focus of the MAFAP analysis is on policy measuring and monitoring, systematic analysis of government policies and their effects. The frame work of MAFAP methodology for price incentive analysis comprises of identifying the type of policies that are supporting production and marketing of the commodities taken for analysis, identifying the factors that causes difference between domestic and international prices for the commodities, measuring the effect of policies on prices at different points of value chain and knowing the level and type of inefficiencies in the agricultural markets.

FUNCTIONS OF MAFAP

- Data analytics: Analysing the data and interpreting the indicators with respective formulae as developed by MAFAP
- Policy prioritization: Ranking the policies based on the evidence of the data for the prioritized areas
- Policy reform analysis: Analysing the effects of the policies that are already implemented in the country for their impacts and reforming these policies for benefitting the farmers

GOALS OF MAFAP

i) Evidence based policy

Making policies based on the evidence of the data bank maintained for making policies.

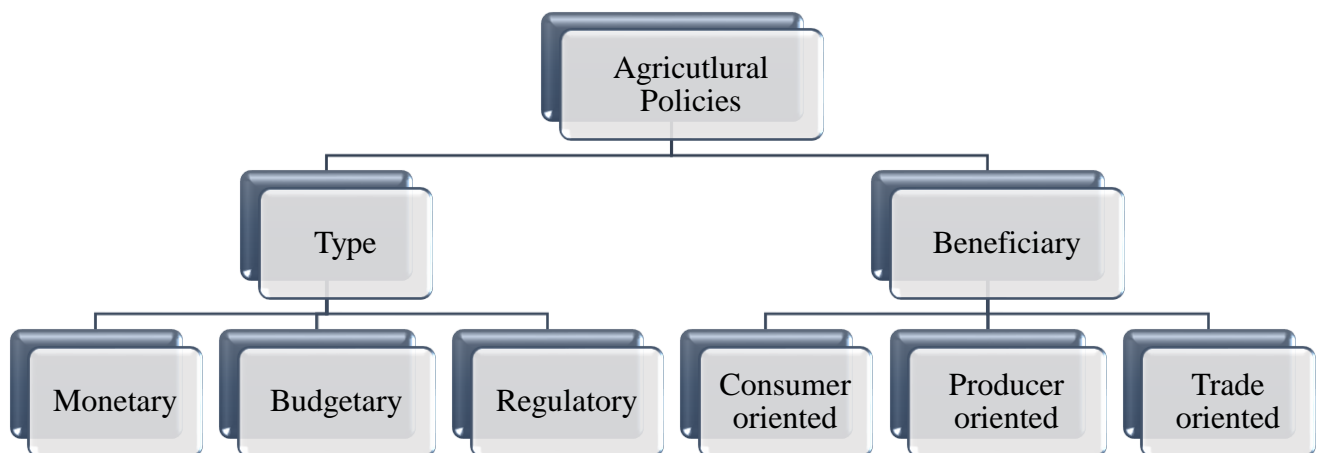
ii) Build and institutionalize country capacity

Improving the capacity of the country to analyse their policies on their own.

iii) Develop common quantitative indicators

Developing indicators for analysing price incentives and public expenditure that can be compared over the years within commodity or within the country or among the countries, etc.

MAFAP CLASSIFICATION OF AGRICULTURAL POLICIES



Agricultural policies are divided on two basis viz., type and beneficiary.

BASED ON TYPE

MONETARY POLICIES

These are the policies that effect the money supply in the country and they come into action when there is situation of high inflation of commodity, high interest rates and low credit supply in the country.

BUDGETARY POLICIES

These are also known as fiscal policies which are used by the government in terms of taxes and expenditure to influence the economy of the country.

REGULATORY POLICIES

These are the policies that impose regulations, restrictions (or) control measures in the markets.

BASED ON BENEFICIARY

CONSUMER-ORIENTED POLICIES

These are the policies that benefit the consumer by improving food quality, easy availability of the products near to the consumer and easy access to markets.

PRODUCER-ORIENTED POLICIES

These are the policies that benefit the producers by lowering input costs, providing finance support to the farmers and fetching higher prices for commodities.

TRADE-ORIENTED POLICIES

These are the policies that effect the trade of the commodities which are mainly responsible for the differences in the international and domestic prices of the commodities.

KEY AREAS

1) Price Incentives are analysed to know the incentives or disincentives to the actors in chain caused by the policies.

2) Public Expenditure it involves measuring and tracking the amount and makeup of government spending on food and agriculture and for food security of the nation.

3) Policy Issues are the issues regarding the inputs and output market, post-production and marketing, budget and investment formulation which can be identified from the analysis from the price incentives and public expenditure.

PRICE INCENTIVES – MAFAP METHOD

Price incentive is the measure of the effect of food and agriculture policies and their impact on the actors of the value chain of any commodity.

COMMODITY SELECTION

MAFAP has developed various criteria for selecting the commodities for analysing under the price incentives. They are as follows;

- Production value: identify and add the commodities that constitute for 70 per cent of total production value.

- Major export and import: identify and add the commodities constituting about 5 per cent of the export or import value.
- Major staple: add commodities that are important staple food for country and constitute 5 per cent of the total calorie's intake in value.
- Interest of the researcher (or) organisation in any commodity can be added.
- Review the overall list and for analysis not more than 10 commodities can be added so as to avoid complexity.
- Delete minor products whose data is hard to gather (or) the commodities having less composition in production value.

TERMINOLOGIES

Access costs (AC): The expenses incurred to move a commodity along the value chain from one point to another. They cover expenses for handling, processing, storage, transportation, and various margins used by marketing intermediaries.

Benchmark price (BP): Cost of a good at the country's border. It is the cost at which a good enters (if imported) or departs (if exported), whether that cost is actual or estimated.

Domestic price at the farm gate (Pfg): Price received by the agricultural producer from the purchaser for a unit of a good produced as output.

Domestic price at the point of competition (Pwh): The price at which the domestically produced good competes with the good that is sold abroad.

Domestic price at the retail (Prt): Price received by the retailer for selling a unit of a good.

Exchange rate (ER): An exchange rate that expresses the value of one currency in terms of another. The rate at which one currency can be converted into another.

Reference price (RP): Benchmark price adjusted to the access costs.

Budget and Other Transfers (BOT): Support provided by the government to the producers of a specific commodity.

Price gap (PG): Difference between domestic and reference prices as determined at the same value chain node. It gauges the impact of domestic market and trade policies, as well as general market performance, on the prices that participants in the value chain are paid.

Nominal rate of protection (NRP): The relative impact of domestic and international trade policy, as well as market performance, on the prices that value chain actors are paid.

Nominal rate of assistance (NRA): Measure of the impact of domestic market and trade policy, general market performance, and public spending on the agriculture industry.

Market development gap (MDG): Effect of currency rate policies, foreign market distortions, and high entry costs within a certain value chain on prices paid to manufacturers.

PRICE INCENTIVE INDICATORS

The indicators that are developed by MAFAP to measure the policy effects are the price incentive indicators. These indicators measures whether the policies are acting as incentives or disincentives to the actors involved in the supply chain of any selected commodity. There are four price incentive indicators whose calculation can be carried out through the formulae as represented.

1) PRICE GAP

The distinction between domestic and reference prices as determined at the same value-adding stage.

At whole sale	At Retail	At farm gate
$PG_{wh} = P_{wh} - RP_{wh}$	$PG_{rt} = P_{rt} - RP_{rt}$	$PG_{fg} = P_{fg} - RP_{fg}$

It is interpreted as, the positive price gap indicates that domestic prices are higher due to the policy effect and the negative price gap indicates that international prices are high due to the policies and the domestic prices are lower than the international prices.

2) NOMINAL RATE OF PROTECTION

It is calculated by dividing the difference in price between the reference price and the domestic market price at the farm, retail, and wholesale levels.

At whole sale	At Retail	At farm gate
$NRP_{wh} = \frac{PG_{wh}}{RP_{wh}}$	$NRP_{rt} = \frac{PG_{rt}}{RP_{rt}}$	$NRP_{fg} = \frac{PG_{fg}}{RP_{fg}}$

The positive NRP indicates the percent of protection that actors get through policies and if it is negative, actors are facing penalties due to the policies.

3) NOMINAL RATE OF ASSISTANCE

It is the measure of the incentives (or disincentives) as a result of the policies, market performance and public expenditure. It is calculated at the farmer level only as;

$$NRA = \frac{(P_{fg} - RP_{fg}) + BOT}{RP_{fg}}$$

The positive NRA indicates that producers are well subsidized by the government and the negative NRA indicates that the producers of the commodity are facing excess taxation than subsidization.

4) MARKET DEVELOPMENT GAP

It is the portion of the price difference that can be attributable to high or ineffective access costs within a certain value chain, exchange rate misalignments, poorly functioning global marketplaces, and externalities. MDG is calculates as;

$$\text{MDG} = \frac{(\text{ACGwh} \times \text{QT} \times \text{QL}) + \text{ACGfg}}{\text{Pfg}}$$

If MDG is positive, it indicates that market costs are high due to inefficiencies and farmers are facing high costs for market access. If MDG is negative, it indicates that market costs are less and farmers face less hindrance to market access.

MAFAP IN INDIA

In India MAFAP was instigated in one of the key areas of public expenditure by NITI Aayog as the implementing partners. The period of this programme was 2 years. The main aim of this programme was to consolidate and strengthen the national policy for small-holders and agricultural producers. The results were suggestion regarding provisions of e-NAM facilities for the selected APMC's in Haryana and Odisha over the National Agricultural Price Policy and setting up of public distribution facility for selected districts in Chhattisgarh and Bihar as suggested through the National Food Security Policy.

CONCLUSION

As every country differs in almost all the aspects, common and standardised policies and regulations are not possible to be executed which also contributes to the differences in prices of the commodities. In specific to agricultural commodities, the prices are always volatile owing to their variability in supply but a constant demand. Moreover, agriculture related trade policies and import tariffs and duties affect the prices of the commodities and also take responsibility in creating price fluctuations. The stabilisation of prices of these commodities and prevention of farmers and consumers from the adverse effects of this price volatility are achieved through various government incentives in the means of MSP, procurement prices and subsidies. However, the evaluation of the effects of these policies in achieving their desired objective and goal is poorly done in India. MAFAP is one such methodology developed by FAO to analyse these effects of the implemented and on-going policies and schemes in any country for any commodity. Hence, analysis through use of price incentive indicators in accordance to MAFAP will reveal the incentive or disincentive price policies and their effects over the supply chain. By this way of analysis, government would be able to recognise the well performing policies and schemes and therefore provides a platform for policy reforms.