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India's Urea Industry in the Emerging Trade Order

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I

INTRODUCTION

In the emerging trade order, free from quantitative restrictions (QRs), domestic urea industry is in disarray; whereas, domestic industry accounts for more than 90 per cent of urea consumed in the country. The formidable level of self-sufficiency in urea has been brought about through an inward looking approach of the Government in the 1970s, when self-reliance in essential commodities like urea was considered a pre-condition for self-sufficiency in food. This approach has, however, made domestic urea industry cost-heterogeneous and warrants Government interventions for a uniform price in the country. A neo-protectionist measure in the form of 'sensitive commodities' has been devised following dismantling of QRs, imports of these commodities are effectively canalised through the State Trading Enterprises. In the long run, there is a least chance of continuance of this measure.[1]

In a liberalising world, the criterion of cost-efficiency dominates over the criterion of self-sufficiency. The existing dispensation for urea, however, prioritises the latter objective. Nevertheless, urea is one of the key inputs for agriculture and there is a possibility of cost inefficiency being incorporated in the domestic production system; whereas, cost and quality are supposed to be the determinants of trade flow in the new trade order. In this situation, how to go about liberalising import of urea is an important question to ponder.

Though issues related to opening up of urea are often debated at different forums, there is dearth of research papers based on proper analysis of data. The study done by Gulati and Narayanan (2000) is worth mentioning in this regard. They suggest import liberalisation with differential concessions so as to benefit from the low world urea prices. They further argue that by not opening the external market, huge fertiliser subsidy is, in fact, going to domestic urea industry rather than to the farmers. There is nothing new in this proposition; this has, in fact, been the case for phosphatic fertilisers wherein both domestic and external producers exist. Import of urea, however, cannot be opened up without checks, as domestic industry is cost-

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heterogeneous. In this perspective liberalising imports of urea requires calibrated steps commensurate with the domestic policy. The present study is an effort in similar direction. It starts with the assessment of world urea market (Section II) and domestic urea industry (Section III) as a pre-condition for evaluating various import options in the Section IV.

II

NATURE OF THE WORLD UREA MARKET

A comparison of world urea production and trade figure indicates that 26 per cent of urea produced is being traded in the world. Aggregate supply of urea is concentrated in the selected regions, East Europe and the Middle East Asia. The demand for urea unlike supply is relatively more distributed throughout the world.

In urea important exporting countries are Russian Federation, Canada, Ukraine, Netherland, Indonesia, and selected Middle East countries like Saudi Arabia and Qatar. A profile of urea exporting countries indicates that they are endowed with favourable resources like natural gas; and the gas-based urea manufacturing process is the most efficient.[2] A review of trade practices of major trading countries does not indicate any unfair trade practices; yet, world urea price has been highly volatile.

The world price of urea during the period 1965-2000 has traversed through three distinct phases. The trend in international price of urea and frequency distribution of these prices during the respective periods have been presented in Box 1.

BOX 1. FREQUENCY DISTRIBUTION AND TREND IN INTERNATIONAL PRICE OF UREA

Period	Mean	Std.Dev	Trend
1965-71	69	20	Decreasing
1972-80	160	77	Increasing
1981-99	148	36	Decreasing

In the first phase (1965-71), world price of urea was decreasing, average price during the period was $US 69 per tonne. The second phase started in the year 1972 was a phase of increasing international price of urea. There was manifold increase in the world urea price during the year 1973-74 following abnormal hike in mineral oil price.[3] On similar account, there was an abrupt increase in the world urea price during the year 1978. These two oil shocks were sufficient to maintain an overall increasing trend in the international price of urea till the year 1980. The average urea price during the period was as high as $US 160 per tonne; variability was also high (by manifold) during this period. The third phase is again a phase of decreasing trend in prices of urea started in the year 1981. Though there were periodic (at an interval of 2-3 years) ups and downs in urea prices during the period, its variability has been less as compared to the previous phase. The average price of urea during the period (US$ 148 per tonne) was significantly lower than the previous phase; nevertheless,

towards the end of the reference period, the international price of urea had gone down to as low as US$ 90 per tonne.

The extent of variability in the international price of urea raises questions about the determinants of prices. An enquiry into price-volatility of urea indicates that this fluctuation to a large extent has been because of the behaviour of the feedstock prices; prices of feedstocks fluctuated as most of them are obtained from mineral oil. The world aggregate demand for urea is the next most important factor to influence the international price; the estimate for the same has been significant and highly elastic.

World aggregate demand, however, consists of demand from individual countries and it is often argued that large demand from a country often influences world aggregate demand and also world prices of urea. In India, the demand for import liberalisation is often contested on this account. The present study with annual price (international price) and import (India's) figures, however, could not substantiate the perception that urea imports by India caused increase in the trend in the world urea price. Such a perception appears to be rooted in the momentary hike in the international price of urea, which often follows import decisions in India.

TABLE 1. POSSIBLE DETERMINANTS OF WORLD UREA PRICE

Factors (1)	Elasticity coefficient (2)	t-statistics (3)	Adj-R^2 (4)
Feedstock price	1.72	70.41	0.54
World demand	1.63	90.13	0.42
India's import	-1.70	0.96	0.11

A large demand from a country can influence aggregate demand and the world price of urea, if aggregate supply does not match with the demand in a given time frame. In the medium run (more than a year) there is sufficient scope for matching the increase in the world demand for urea by stepping up production in the selected gas-endowed countries.[4] In this backdrop, a momentary hike in world urea price following import decisions in India can be explained by the erratic import demand from India; that is, India's demand for urea imports might have been irregular in terms of period and amount as well, causing temporary mismatch in the world supply and demand for urea; as a consequence, world price of urea often increases with the import decisions in India. There may be other reasons for the momentary hike in the international prices not discussed here.

The foregoing discussion shows high instability in the world urea prices, primarily because of the fluctuation in feedstock prices, which owes it to mineral oil prices. The study found sufficient unutilised urea manufacturing capacity in the gas-endowed countries to match the increase in the aggregate demand for urea. In spite of it, the import demand from India has caused momentary hike in the world urea price, primarily because of an irregular and high import demand.

III

DOMESTIC UREA INDUSTRY

Domestic urea industry consisting of around 30 manufacturing units[5] has accounted for more than 90 per cent of domestic consumption of urea in the country. The production cost of urea in these units varies widely; cost data for the year 1999 indicates that unit cost is the lowest for gas-based units followed by fuel oil, naptha and coal,[6] in the increasing order of the unit cost of production.

A historical perspective of unit costs indicates that growth in unit cost of urea production varies with the feedstocks used; growth has been lower for the gas-based units as compared to naptha and fuel oil-based units during the reference period (1990-91 to 1999-2000). There was an abrupt increase in the production cost of urea during the year 1996-97 primarily because of a significant increase in the feedstock prices during the year. This significant rise in the feedstock prices was, in fact, the result of the Government decisions to integrate domestic and international market for the feedstocks.[7] Following this integration, there was also fluctuation in the production cost of urea, though this is not amply clear from the unit cost data as reflected by the Retention Price Scheme (RPS). The break-up of unit production cost into feedstock and other costs points towards this instability, this cost break-up was available to the researcher for the selected years.

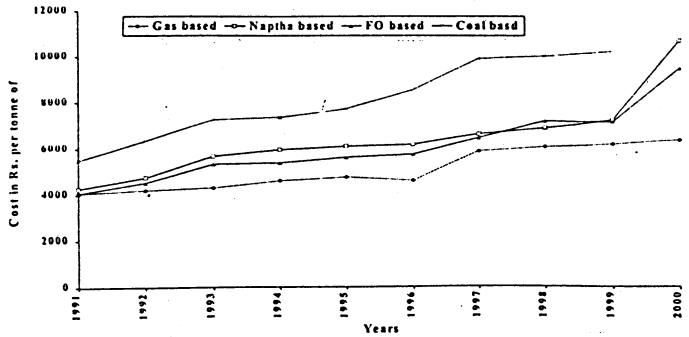

Figure 1. Feedstockwise Trends in Average Production Cost of Urea

Extent of Protection to Domestic Urea Industry

It is often argued that urea production in the country has increased because of consistent protection to the domestic industry; therefore an attempt has been made here to assess the nature and magnitude of protection to the domestic urea industry. As discussed earlier, domestic urea industry is cost-heterogeneous with feedstock being the most important determinant for heterogeneity. The extent of protection has therefore been assessed according to the feedstocks used. One of the important determinants in the calculation of protection coefficients is the international price,

and international price as referred earlier has been highly unstable; therefore protection coefficients - nominal and effective[8] - have been worked out for three reference periods; 1991, 1995, 1999 representing different situations in the world urea market.[9]

The protection coefficients, in contrast to the general belief, do not indicate absolute protection to the urea industry; level of protection, in fact, varies with the international price. In one of the reference years (1995), domestic urea industry was not protected. The magnitude of protection also varies with the feedstock used. The gas-based urea industry is nominally protected (normal protection coefficient: NPC > 1); the extent of protection further decreases if we consider effective protection coefficient (EPC) as a measure of protection. Similarly, fuel oil-based urea appears to be protected in terms of product prices, that is, NPCs. The level of protection as measured by the EPCs decreases; thereby indicating that fuel oil-based units would emerge efficient if domestic fuel oil price is truly integrated with the international price.

TABLE 2. NOMINAL AND EFFECTIVE PROTECTION COEFFICIENTS OF DOMESTIC UREA INDUSTRY, FEEDSTOCKWISE FOR SELECTED YEARS

Feedstock	Nominal protection coefficients (NPCs)			Effective protection coefficients (EPCs)		
	1991	1995	1999	1991	1995	1999
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Naptha-based urea	1.19	0.79	1.80	2.42	0.84	9.09
Fuel oil-based urea	1.13	0.72	1.62	1.09	0.59	2.22
Gas-based urea	1.11	0.59	0.09	0.87	0.60	1.93

The naptha-based urea industry presents a different picture; the NPCs show a blanket protection, the extent of protection further increases with the integration of domestic and international market of naptha. The protection coefficients thus indicate that naptha-based urea industry would not emerge competitive even if naptha were supplied to the domestic manufacturers at the international price. This particular finding with regard to the naptha-based units is based on the average cost data; this requires further probing with the detailed cost data for the units before arriving at the final conclusion. The unitwise detailed cost data is difficult to obtain from the Fertiliser Industry Co-ordination Committee (FICC).

Following the Government decision of integration of domestic feedstock prices with the international market, fuel oil and naptha are actually over-priced in the country. For instance, in the year 1999 domestic price of naptha was 15 per cent higher than the international price, while that of fuel oil was 25 per cent higher than the international price. Contrary to it, comparison of domestic price of gas with the international price indicates that the domestic gas price was depressed to the extent of

30 per cent along the HBJ (Hazira-Vijaypur-Jagdishpur) pipeline, and around 54 per cent at the land-fall points during the year 1999.

In spite of the initial hiccups in the integration of the domestic feedstock prices with the international prices, one expects domestic feedstock prices to closely represent the international price in a globalising world. This may alter the relative position of domestic urea manufacturers with respect to the unit cost of production; some of the fuel oil- and naptha-based units, which are towards the higher end of the cost, may not remain so with the proper integration of domestic and international market for feedstocks. Any assessment of import options for urea must therefore consider the production cost based on the import parity price of feedstock, referred here as the economic cost of urea production.[10]

Economic Cost of Urea Production

The economic cost of urea production has been derived from the existing cost data supplied by the FICC, successively referred here as financial cost. The year 1999 is the most recent year for which some break-up of cost is available from the FICC; based on these data, an attempt has been made to project the economic cost of urea production for the year 2003. The projection assumes input-output structure similar to that in the year 1999. The study considers Rs. 62 per US $ as likely exchange rate for the projected year 2003 (Bhattacharya and Johnson, 2000). This figure is significantly higher than the actual rate which is hovering around Rs.47/Rs.48. However, for the present discussion the projected figure has been used.[11]

The economic cost has been projected for three price situations since world price of feedstocks as discussed earlier is highly volatile. Based on the past trend of the feedstock prices, the average, maximum and minimum feedstock prices have been identified (Box 2).

BOX 2. LIKELY IMPORT PARITY PRICE (IN US$) OF FEEDSTOCK IN DIFFERENT SITUATIONS DURING THE PROJECTED YEAR (2003)

Feedstocks (1)	Average (2)	Maximum (3)	Minimum (4)
Naptha	198	238	136
Fuel oil	115	138	72
Gas	136	153	102

Note: Naptha and fuel oil prices are in US$ per tonne, whereas gas prices are in US$ per 10 MKcals.

The economic cost of urea production has been worked out for these price situations. The costs other than feedstocks, which are non-tradable in nature are supposed to increase at a rate of 6 per cent per annum during the reference period. This is the rate at which non-tradable part of the cost has been growing during the nineties. The economic costs so derived for the reference years will be used for assessing the import options for urea.

TABLE 3. UREA MANUFACTURING UNITS WITH FINANCIAL AND ECONOMIC COST OF PRODUCTION FOR THE YEAR 1999, AND ALSO PROJECTED ECONOMIC COST (AVERAGE, MAXIMUM, MINIMUM) FOR THE YEAR 2003

Manufacturing units	Production ('000 tonnes)	Share	Costs (Rs./tonne) in 1999		Projected economic costs (Rs./tonne) in 2003		
			Financial	Economic	Average	Maximum	Minimum
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	1,516.0	7.8	4,400.0	6,553.0	10,142.0	10,883.0	8,412.0
2	1,020.0	5.2	4,505.0	6,701.0	10,365.0	11,121.0	8,601.0
3	2,207.8	11.3	4,832.0	5,719.0	8,504.0	9,095.0	7,321.0
4	838.0	4.3	5,093.0	5,952.0	8,765.0	9,341.0	7,613.0
5	323.9	1.7	5,193.0	6,057.0	8,890.0	9,466.0	7,739.0
6	838.0	4.3	5,208.0	7,132.0	10,658.0	11,320.0	9,112.0
7	1,412.0	7.3	5,724.0	6,688.0	9,834.0	10,477.0	8,548.0
8	660.8	3.4	6,263.0	5,632.0	8,413.0	9,114.0	7,011.0
9	854.7	4.4	6,987.0	8,939.0	12,942.0	13,614.0	11,374.0
10	878.5	4.5	7,177.0	9,430.0	10,280.0	10,834.0	9,172.0
11	223.0	1.1	7,286.0	6,350.0	9,975.0	11,015.0	7,894.0
12	956.0	4.9	7,407.0	9,989.0	10,907.0	11,541.0	9,641.0
13	890.7	4.6	7,427.0	9,997.0	10,916.0	11,547.0	9,647.0
14	269.0	1.4	7,467.0	9,443.0	13,594.0	14,275.0	12,007.0
15	535.7	2.8	7,780.0	6,891.0	10,548.0	11,536.0	8,573.0
16	668.0	3.4	7,867.0	9,790.0	12,979.0	13,641.0	11,434.0
17	38.5	0.2	8,088.0	7,154.0	10,975.0	12,013.0	8899.0
18	393.2	2.0	8,313.0	7,686.0	12,078.0	14,006.0	9,668.0
19	503.7	2.6	8,368.0	7,398.0	11,358.0	12,435.0	9,203.0
20	523.7	2.7	8,544.0	7,959.0	12,255.0	13,641.0	10,005.0
21	66.7	0.3	8,546.0	7,639.0	11,523.0	12,531.0	9,507.0
22	568.0	2.9	8,567.0	7,911.0	12,476.0	14,496.0	9,951.0
23	356.0	1.8	8,670.0	8,077.0	12,435.0	14,261.0	10,153.0
24	591.0	3.0	8,708.0	18,057.0	12,637.0	14640.0	10,134.0
25	835.5	4.3	9,625.0	8,846.0	14,128.0	16,524.0	11,133.0
26	312.0	1.6	9,665.0	8,886.0	14,179.0	16,575.0	11,183.0
27	183.0	0.9	9,688.0	8,991.0	13,986.0	16,131.0	11,306.0
28	732.9	3.8	10,162.0	9,544.0	14,368.0	16,270.0	11,989.0
29	260.0	1.3	10,335.0	9,668.0	14,715.0	16,767.0	12,149.0
Total / Average	19,456.3	100.0	7,424.2	7,826.0	11,444.0	12,621.0	9,274.0

Note: The costs are in rupees per tonne of urea. Projected economic costs are based on average, maximum and minimum prices of feedstocks. In the last row it is the weighted average of the production costs, for other columns it is the total.

Some of the salient points about unitwise financial and economic cost of urea have been discussed in brief. In general, production cost is less for the gas-based urea

units. The unit cost decreases with the age of the plants,[12] the component of capital cost reduces drastically after 15 years of installation. The weighted average cost of manufacturing units has been significantly lower than the simple average cost, indicating that most of the high cost plants are in fact smaller units.

In the average feedstock price situation, the cost of urea production has grown at a rate of 5 per cent during the projected period. With the integration of domestic and international markets, inflationary trend in the traded commodity is supposed to reduce; however, a deteriorating exchange rate (as predicted by Bhattacharya and Johnson, 2000) has caused an overall increase in the average cost of urea production.

The average cost of producing urea increases with the economic pricing of feedstocks, since gas price increases in the free-trade scenario and around 60 per cent of domestic urea manufacturing capacity is gas-based. The disparity in the unitwise cost reduces as we switch over from financial to economic cost of urea production. In the domestic feedstock market, distortion has been in favour of gas, and gas is also technically the most efficient feedstock for urea; therefore financial cost of gas-based urea is towards the lower end in the cost hierarchy of the urea-manufacturing units. Whereas, naptha and fuel oil is over-priced in the country; as a consequence the disparity between the extreme cost units increases. Alternatively, with the economic pricing production cost of gas-based unit increases and disparity between unit cost decreases.

IV

EVALUATING IMPORT OPTIONS

The existing trade policy with respect to urea is often criticised on the ground that the country is incurring a significant amount of cost by relying on domestic production capacity and not importing cheap urea. As of now, India imports only deficit amount of urea through the STEs (for details, see Annexure). A corollary to this criticism is that the bulk of the fertiliser subsidy goes to fertiliser-manufacturers rather than to the farmers. In this backdrop, the present study attempts to evaluate import options. The suitability of import options depends on the domestic market dispensation, and evaluation of alternate options in the domestic market is beyond the scope of the present study; alternate trade options will therefore be evaluated by considering domestic policy as pre-determined (for details, see Annexure).

Level of Self-Reliance and Pooled Cost of Urea

No one can gainsay that the total cost of obtaining urea from domestic and external market would be an important determinant for adjudging the trade policy. An attempt has therefore been made to assess the costs (financial and economic) of obtaining urea at different levels of import intensities (import as per cent of domestic consumption). During the last one decade, import intensity in urea has varied from zero (1989-90) to a maximum of 40 per cent in the year 1995-96. In that particular

year India had accounted for around one-fifth of the world urea market; and import of this magnitude is said to have influenced international price of urea, though this was not established with the annual data in the present study. Moreover, protection coefficients indicate that the gas-based urea units (accounting for around 55 per cent of domestic urea production) are not inefficient.

Considering these facts, import intensity beyond 50 per cent is not assumed for an essential commodity like urea, at least in the present circumstances. The other import intensity levels have been parameterised between 50 to 100 per cent with an interval of 10, the level of self-sufficiency for urea has been assumed at 50, 60, 70, 80, 90, and 100 per cent. Based on the levels of self-sufficiency, quantity of import and the pooled cost of urea would vary.

The pooled cost of urea comprises cost of domestically obtained urea and imported urea. The cost of domestically obtained urea is based on an increasing supply function; whereas the cost of imported urea is based on inelastic supply function. The assumptions imply that the cost of obtaining additional urea from the domestic source will increase at an increasing rate, while the cost of obtaining additional urea from the international market will increase at a constant rate. The study thus assumes that urea demand from India would not affect the international price of urea; this has also been found true with the annual data.

The world urea price as discussed earlier is highly volatile, therefore pooled cost has been worked out in three import parity price situations: low, medium and high urea price in the world market. Trade-off between the level of self-reliance and pooled cost of urea has been studied for two reference years, 1999 and 2003. International price in the year 1999 has been abnormally low; this was the lowest figure in last 25 years and was lower than even the low range of international prices

TABLE 4. TRADE-OFF BETWEEN THE LEVELS OF SELF-SUFFICIENCY AND THE POOLED COST OF OBTAINING UREA FROM DOMESTIC AND EXTERNAL SOURCES

(million '000 Rs.)

Self-reliance levels (per cent) (1)	Financial cost of obtaining, 1999				Economic cost of obtaining, 2003		
	Actual (2)	Average (3)	High (4)	Low (5)	Average (6)	High (7)	Low (8)
50	99.53	126.31	139.70	112.92	219.10	241.59	196.50
60	102.23	122.29	132.32	112.26	219.01	238.13	199.89
70	106.96	122.62	130.45	114.79	220.46	234.93	205.99
80	114.39	124.54	129.62	119.46	223.21	234.82	211.60
90	120.46	126.47	129.48	123.47	227.66	235.47	219.84
100	134.72	135.98	136.61	135.35	235.10	238.77	231.33

Note: Average, high and low cost of obtaining urea is based on the average, higher and lower ranges of international price of urea during the period 1980-99; whereas actual cost is based on the world price during the year 1999, which was the lowest in the last 20 years and has not been captured even in the lower range of international price considered in the present analysis. The cost of obtaining urea during the year 1999 is based on the financial cost while for the year 2003 it is based on the economic cost of obtaining urea from the domestic as well as external market.

considered in the present study. In order to depict the actual situation and simultaneously portray the likely situation with the existing cost (financial) of production, trade-off has been obtained for four price-situations during the year 1999, and for three price-situations during the year 2003. It is important to note that trade-offs in the year 2003 are based on the economic costs of urea, while trade-off for the year 1999 is based on the financial costs.

BOX 3. LIKELIHOOD OF INTERNATIONAL PRICE (CIF) OF UREA

Price situations	World price (US $ per tonne)	Probability
(1)	(2)	(3)
Average	170	0.6
Low	140	0.2
High	200	0.2

Trade-off between the level of self-sufficiency and pooled cost (economic/ financial) of urea indicates that maintaining a self-sufficiency level to the extent of 80 per cent of the existing production capacity is not undesired, especially when the international price (cost, insurance and freight - cif) goes beyond US$ 170 per tonne. The maintenance of self-sufficiency, however, incurs significant cost to the society in the form of cost-advantage foregone by not undertaking import, when the international price (cif) is low at around US$ 140 per tonne. There is a steep increase in the pooled cost of urea, if we go beyond the self-sufficiency level of 80 per cent. This analysis highlights that around 20 per cent of domestic urea-manufacturing capacity at the tail end is not cost-efficient and they are causing steep hike in the pooled cost of urea. Protection to these units, in fact, causes enormous burden on the society. There may be various reasons for this cost-inefficiency, which are beyond the jurisdiction of the present investigation.

An increased dependence on the external market for urea has some other advantages for the country. Several studies show that natural gas is technically the most efficient feedstock for urea; since world trade in natural gas is restricted, a country is supposed to benefit by importing urea from the gas-endowed countries. India, with acute deficit in natural gas, can use its scarce gas alternatively. Import, however, must be in regard to the status of the domestic urea industry.

It appears from the above analysis that around 80 per cent of the existing urea-manufacturing capacity is not inefficient and is not a burden on the society; these units need protection from undue fluctuation in the world urea and hydrocarbon markets. Tariff is undoubtedly the most WTO-compatible way of protecting the domestic urea industry. The domestic urea industry is cost-heterogeneous; in this situation free import with tariff would lead to super normal profit for the selected low-cost mainly gas-based units, while it is a problem of survival for other units. In the given domestic dispensation, tariff rate quota (TRQ) is the right way of protecting domestic urea industry. Imposition of TRQ also requires estimation of prohibitive

tariff beyond certain level of import. The present study attempts to work out the range of such customs tariff for urea.

Desired Rate of Customs Tariff

The economic cost of production has been used to work out the suitable customs duty that would provide protection to around 80 per cent of domestic urea industry. The rate of customs duty would, however, vary with the domestic cost of production and the world price of urea. The world price of urea, as discussed earlier, has been highly unstable. There has been signs of instability in the production cost of urea with the integration of domestic and international market for feedstocks. The economic cost of urea production has been projected for three feedstock-price situations for the year 2003.

The projected costs of production have been compared with the import parity price of urea. Import parity price of urea in the present analysis is the delivered-duty-paid (DDP) price at the West Coast of India. This is based on the past trend in the international price (free-on-board price - fob - at the Middle East) of urea. The costs associated with the import of urea, such as freight, insurance, port-handling charges have been assumed at 20 per cent of the fob price.

The comparison between import parity price and domestic cost of production shows that an import parity price of US$ 225 provides sufficient protection to the domestic urea industry. The sufficient protection here means protection to around 80 per cent of the urea-manufacturing units, even in the worst condition when production cost is high because of high international price of feedstocks. Once the import parity price that provides desired protection to the domestic urea industry is determined, the extent of customs duty - *ad valorem* or specific - has been worked out for a specific international price of urea. The study found that in an average feedstock-price situation, import duty of 45 per cent would provide the desired protection to the domestic urea industry, when the international price is US$ 140 (fob) per tonne of urea. Since the international price of urea and feedstocks used in the production of urea are volatile, protection to domestic urea industry requires a variable import tariff (Box 4).

BOX 4. CUSTOMS DUTY *(AD VALOREM)* FOR A RANGE OF INTERNATIONAL PRICES (US$ PER TONNE) IN DIFFERENT FEEDSTOCK-PRICE (FP) SITUATIONS

FP situations	International prices (fob)		
	US$ 90	US$ 140	US$ 180
(1)	(2)	(3)	(4)
Average	113	30	0
High	138	45	9
Low	69	2	0

Tariff Rate Quota

The opening up of import with the variable tariff, however, requires matching reforms in the domestic urea market primarily to make the domestic industry cost-homogeneous as suggested by various committees.[13] In the existing price and subsidy regime, when domestic urea-manufacturing units are insulated from the external market and import is primarily to match deficit in domestic consumption and production of urea, tariff rate quota (TRQ) would be more suitable for the country in the existing price-cum-subsidy regime.

The most important decision while imposing TRQ would be the quantity of imports to be allowed at the minimum tariff. In urea, as of now, deficit is being imported by the STEs. In the year 2003, the country is supposed to be deficit to the extent of 2.5 million tonnes of urea under specific assumptions;[14] import quota of 2.5 million tonnes, therefore, appears to be the right amount for earmarking quantity of import in TRQ during the reference year.

In TRQ, prohibitive rate of tariff is the next most important parameter. Import tariff (*ad valorem*) for adverse situation (calculated earlier) can indicate about the prohibitive rate of import tariff. The adverse situation for domestic urea industry in the present context means the situation when international prices for feedstocks are moderately high while that of urea is low. The previous analysis suggests that the tariff rate, which would provide protection to domestic urea industry from all sorts of adverse situations in the international market, will be as high as 138 per cent.

Differential Concessions

Once the industry is cost-homogeneous, a uniform concession to all the domestic urea-manufacturing units can be provided for some of the disadvantages[15] they face as compared to the urea producers of other countries. As of now, farm gate price of urea is significantly lower than the average international price of urea; therefore, imported urea would also require concession. Like phosphatic fertilisers, our country can think of differential concession regime for urea; in this regime imported urea will also be provided with concessions, this concession would, however, be lower as compared to the domestic manufacturers. The differential concession can be linked with the difference in the domestic and international price of feedstocks. This may be continued in the name of providing level playing field to the domestic producers. A flat rate of concession to all the domestic manufacturers would encourage them to improve their cost-efficiency.

Import policy options, discussed above, must be commensurate with the domestic market situation. A brief account of import options in the given market dispensation has been summarised in Box 5. The likely domestic situation in the given time period, presented in Box 5, is based on the recommendation of the Expenditure Reforms Committee, which our Finance Minister declared to adopt in the Parliament during his budget speech in the year 2001.

BOX 5. IMPORT POLICY SCENARIOS FOR UREA, IN BRIEF

Period (1)	Likely domestic situation (2)	Import policy (3)
Till March 2005	Cost heterogeneous	Tariff rate quota
April 2005 to March 2007	Cost homogeneous	Differential concessions
April 2007 onwards	Domestic price decontrol	Variable tariff

Note: Likely domestic price scenarios are based on the recommendations of Expenditure Reforms Committee, Government of India.

One can infer from the above discussions that as long as production cost of urea remains heterogeneous, tariff rate quota (TRQ) is the most likely option for import. Once domestic urea industry emerges as cost-homogeneous, imports may be liberalised with differential concessions for a limited period. During this intermediate phase, the performance of domestic industry may be gauged, any corrective measure if needed, must be undertaken; this period must be utilised by the domestic industry to adjust from the impending competition. Beyond this phase (April 2007), the import of urea must be liberalised in its true sense, but with a variable tariff. A WTO-compatible protection to the domestic industry is desired since 80 per cent of urea-manufacturing units are not cost-inefficient and are not a burden on the society, while the international price of urea is highly volatile.

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ANNEXURE

I.1: THE DOMESTIC ENVIRONMENT, AND RETENTION PRICES

The most important event in the arena of Indian fertiliser policy has, probably, been the adoption of retention price-cum-subsidy (RPS) scheme in the mid-1970s. Retention Price (RP) principally assures fertiliser producer a cost plus 12 per cent post-tax return at an output level of 85 to 90 per cent of rated capacity. The Marathe Committee, which actually recommended RPs has suggested for industry-wide norms considering urea manufacturers using same feedstock as a homogeneous industry. The government has, however, adopted the RPs on plant basis, as the costs of units using the same feedstock also vary according to the location and age of plants. Retention price includes the cost of variable inputs, conversion costs, selling expenses and capital related charges. Government notifies the statutory sale price (what the farmers pay, that is, the farm gate prices) for urea, uniform throughout the country. Under the RPS scheme, the difference between the statutory sale price (adjusted for freight and dealer's margin) and retention price of urea is being paid as subsidy.

The existing price dispensation has contributed substantially to the growth of the domestic fertiliser production, as it ensures an adequate return on investment to the entrepreneurs. This has, however, encouraged production by adopting different technologies and as a result the urea industry has emerged cost heterogeneous. Apart from it, there is growing realisation that the very nature of the RPS, that is, administered and non-competitive, has encouraged inefficiency in the production process of urea. There are other sources of inefficiency; there has been no standard project cost for a certain capacity plant of urea. This induces manufacturers to inflate project cost and earn more money through higher retention prices, as RP assures 12 per cent of the capital charges. It was evident that certain gas-based plants have

surplus capacities as capacity utilisation has reached unbelievable level such as 140 per cent for the selected plant (Jha, 2001). Whereas, the RPS assures 12 per cent return at 90 per cent capacity utilisation, thus certain manufacturers have earned profits significantly higher than the earmarked level.

In order to stem out the problems associated with the fertiliser pricing, specifically urea, a High Powered Committee under the chairmanship of Prof. C. H. Hanumantha Rao was commissioned in June 1997 (Government of India, 1998). This committee has given its recommendations in March 1998. Successively, Government concerned at the growing fiscal deficit commissioned Expenditure Reforms Committee (ERC) in the year 2000 to undertake reforms in government expenditure. Since a significant proportion of government expenditure goes in subsidising fertilisers, specifically urea, the ERC highlights the need to reform the existing pricing system in urea so as to reduce revenue expenditure of the Government. The recommendations of the ERC related to pricing of urea have been discussed below.

As per the ERC, the goal of reforming the existing pricing policy in urea will be to bring fertiliser prices charged from the farmers to the level of import parity price. In this process, the small farmers' real income, food production of the country, and balanced use of N, P, and K must not be affected. The ERC suggests simultaneous increase in fertiliser and agricultural output prices to offset the effect on farmers. The Committee suggests two possible ways of protecting the small farmers from this price hike. The small farmers generally produce to consume rather than market the agricultural commodities. The possible ways to protect small farmers, as per the ERC are: first, to introduce dual price scheme under which all cultivator households are given 120 kg of fertilisers at subsidised prices; second, to expand Employment Guarantee Scheme and Rural Works Programme to provide additional incomes to the small farmers. The ERC has delineated discrete steps with suggested time period in parentheses, illustrated below, to make domestic urea industry cost-homogeneous and to integrate domestic urea prices with the import parity price.

Step 1, (beginning February 1, 2000), the existing urea manufacturing units have been grouped into five categories: pre-1992 gas-based units, post-1992 gas-based units, naptha based units, FO/LSHS based units and mixed feedstock units. The ERC suggests for scrapping the individual retention price scheme, and in its place a Urea Concession Scheme with a fixed amount of concession for each of these groups was to be introduced. Simultaneously, urea-manufacturing plants may be freed to get feedstock from wherever they want, including imports. Considering the large fluctuations in the import price of feedstocks, groupwise concessions were to be revised quarterly. The revision in the issue price to farmers should have been done every season, rather than every three months.

Step 2, (beginning April 1, 2002), the concessions will be reduced to reflect the possibility of reasonable improvement in feedstock usage, efficiencies and reduction in capital related charges.

Step 3, (beginning April 1, 2005), the ERC considers imported liquefied natural gas (LNG) as the best possible feedstock for manufacture of urea. Therefore, all non-gas based urea plants may be modernised to use LNG as feedstock at this stage. For plants, which do not switch over to LNG as feedstock, only the level of concession that the unit would have been entitled to if it had switched over to LNG would be allowed.

Step 4, (beginning April 1, 2006), the urea industry may be decontrolled by this time. The Committee recommends a 7 per cent increase in the price of urea in real terms, every year from April 1, 2001. This way the open market price will reach Rs. 6,903 by April 1, 2006, a level at which the industry can be freed from all controls and be required to compete with imports, with variable levy ensuring the availability of such imports at the farm gate at Rs. 7,000 per tonne of urea. At this stage, no concession will be necessary for the gas-based plants, whereas a feedstock differential concession may be given to all non-gas-based urea plants with that for LNG serving as a ceiling.

The recommendations of ERC will essentially bring about a shift from the existing policy of fixed price and variable subsidy to the producers, to a framework of fixed subsidy and flexible farm gate price subject to ceiling. A different kind of control regime for favourable distribution of fertiliser to the small and marginal farmers will, however, emerge in this process. Though the Finance Minister in his budget speech (2001-2002) has reiterated his commitment to implement the recommendations of the ERC, there has hardly been any progress. For instance, the ERC calls for 7 per cent increase in the real prices of

urea every year, this has not come about in the recent years. Moreover, the much-hyped LNG pipeline from countries like Oman is yet to take off.

It appears that reform in domestic urea market will take some more time. The pressure to liberalise imports being a WTO member country is, however, mounting. The situation therefore warrants caution while liberalising imports of urea.

I.2: THE EXTERNAL ENVIRONMENT, DIFFERENTIAL CONCESSIONS AND BOUND RATES

India has been a net importer of fertilisers. The dependence on imports has, however, changed over the years. In the 1950s and 1960s, the country was importing more than 50 per cent of the total fertilisers consumed in the country. The oil shock in the year 1974 has forced reorientation in Government approach towards fertiliser production (discussed above). Following the adoption of RPS, dependence on import has declined; this decline has been even sharper for nitrogenous fertilisers like urea. The RPS scheme was complemented with the import restrictions for most of the fertilisers. Imports of most of the fertilisers were canalised through various government parastatals. These parastatals were importing fertilisers taking into account the gap between domestic production and consumption of fertilisers.

In the wake of liberalisation, imports of DAP, a major phosphatic fertiliser, were decanalised in September 1992, and that of MOP, an important potassic fertiliser in June 1993. The decanalisation has affected viability of many domestic manufacturers of DAP. In order to benefit the domestic manufacturers over their counterparts, a flat rate of concession (to reduce the consumer price of DAP) which was applicable to both domestic as well as imported DAP, was withdrawn from the imported one. Successively, concession to domestic manufacturers of DAP was increased. Again, in July 1996, concession to imported DAP was introduced to decrease farm gate prices of DAP. The rate of concession was, however, different for domestic and imported fertiliser, this is often referred as differential concession regime. The difference in concession between domestic and imported DAP has further increased during the recent years.

Unlike these fertilisers, import of urea is restricted; this is canalised through State Trading Enterprises (STEs) such as STC, MMTC, IPL. In the 2001 EXIM Policy announcements, urea has been placed in the 'watch list of sensitive items'. Urea is undoubtedly a sensitive item considering the variation in the domestic cost of manufacture of urea. The 'watch list' is, however, not a long-term solution. In the light of the emerging trade order free-from-quantitative restrictions (QRs), a suitable import policy properly linked with the domestic situation is desired. Though the bound rate, the maximum import tariff committed to the WTO, for many fertilisers is as low as 5 per cent; urea has, however, been kept unbound, that is, India can impose any level of tariff on the import of urea.

NOTES

1. One or other WTO member countries may object to the existing practices and there are chances that India may have to dismantle the present arrangement without making suitable reforms in the domestic market, as it happened in the case of removal of QRs following the decision of the Dispute Settlement Body of the WTO.

2. One tonne of urea requires 7 MmKcals of naptha, 9.75 MmKcals of fuel oil and only 6 MmKcals of gas.

3. Various feedstocks used in the manufacture of urea, for instance, naptha and fuel oil are derived from the mineral oil. Price of natural gases is also highly correlated with the price of mineral oils, as these are the prime sources of fuel energy.

4. In most of the gas-endowed countries of the world, urea-manufacturing capacity is under-utilised, actual production in most of these countries is less than 50 per cent of the aggregate capacity of the plant in that country.

5. In the year 2000 there were 32 urea-manufacturing units wherein various expansion units of a plant have been considered separately. Feedstockwise distribution of these units are: gas-based (12),

naptha-based (10), fuel oil-based (6) and 4 units are mixed energy-based, that is, they can use both gas and naptha as feedstocks.

6. The coal-based units ceased to operate since the year 2000 because of high cost of production; this unit has therefore received little attention in the present discussion.

7. During the earlier years feedstocks were supplied to the fertiliser units at some concessions, essentially to maintain low feedstock-fertiliser prices. In the year 1996 attempts towards liberalisation of domestic prices of feedstocks were made, feedstocks prices were integrated with the import parity prices and prices were uniform for all the users of these hydrocarbons. In naptha and fuel oil, integration is said to be complete, while in natural gas it was supposed to be completed by 2002 in few discreet steps.

8. Nominal Protection Coefficient (NPC) is the ratio of domestic to world prices, and considers distortion in output price only. Whereas, Effective Protection Coefficient (EPC) takes care of distortion in input as well as output prices by considering value additions (see Scandizzo and Bruce, 1980).

9. In the year 1999 world urea price was one of the lowest in the last two decades. The world price was high during the year 1995, the other reference year (1991) represents average situation.

10. The economic cost referred here is the cost of production of urea if tradable inputs are charged at the import parity price (for details, see Little and Mirrlees (1974)). The import parity price here is the Delivered Duty Paid (DDP) price of the imported feedstocks. The study assumes feedstock as the only tradable inputs as this accounts for more than 90 per cent of tradable inputs in the cost structure of urea.

11.This figure is significantly different on account of at least two factors; first, there was an unexpected inflow of capital during the year 2001-2002 and 2002-03 which constrained depreciation of rupees; again US $ which is often considered as benchmark for exchange rate comparison, has depreciated with respect to major currency like Euro during the reference period further reducing the expected gap between rupees and US $.

12. One of the important cost components is the cost of capital comprising loan and interest on it. The capital cost decreases in a repayment schedule of 15 years, beyond this period capital cost is only marginal; therefore unit cost of urea production decreases after 15 years.

13. The High Powered Committee headed by Hanumantha Rao (Government of India, 1998) deliberated on this issue; the Expenditure Reforms Committee further delineated steps (yearwise) to make the industry cost-homogeneous.

14. The study assumes that the dependence on imports would increase as the country is discouraging fresh investments in urea industry. There are few undergoing projects in urea to increase production, but there have also been instances of existing units being shut down (for instance, during the year 2000 three units shut down which were in operation during the year 1999). Considering these facts, production as in the year 1999 is supposed to continue over the reference year 2003. The consumption of urea is supposed to grow at an annual rate of 2.5 per cent during the projected period.

15. One of the most important disadvantages domestic manufacturing units suffer is the feedstock price disadvantage. Feedstock prices even if truly integrated to the import parity price requires discount to the extent of differences in the cif and fob costs of feedstocks. Alternately, one can argue that feedstocks may be provided to the domestic fertiliser-manufacturer at the export price (fob) rather than at the import parity price (cif), since most of the feedstocks are sourced indigenously, and the country is occasional exporter of feedstocks. The cost of other items especially capital and electricity is also said to be higher than many urea-exporting countries. In contrast, one can argue that labour is cheap in India, though not so in the organised sector. Considering these facts, it is not easy to assess the exact magnitude of the differential concession to the domestic manufacturers on account of disadvantages to these units.

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