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**INDIA : PROSPECTS FOR FERTILIZER TRADE
AND IMPACT OF LONG TERM FERTILIZER POLICY**

by

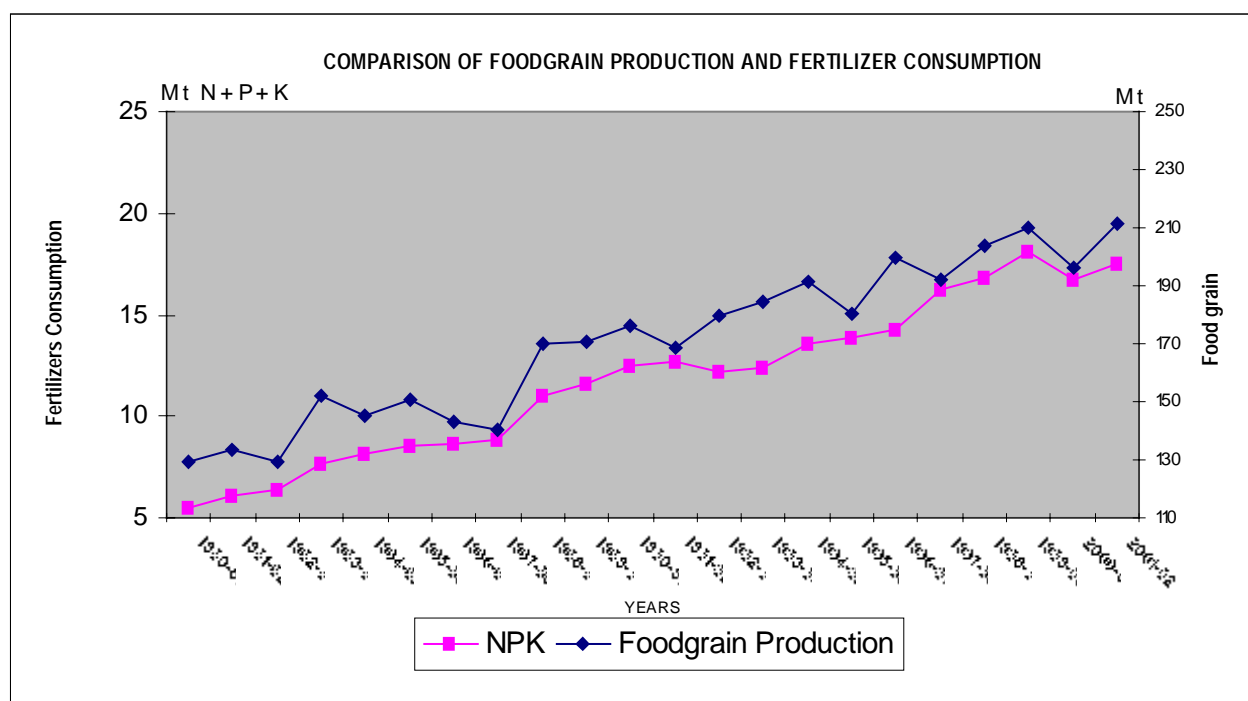
**Akhil BHARDWAJ
VNB Consultants
INDIA**

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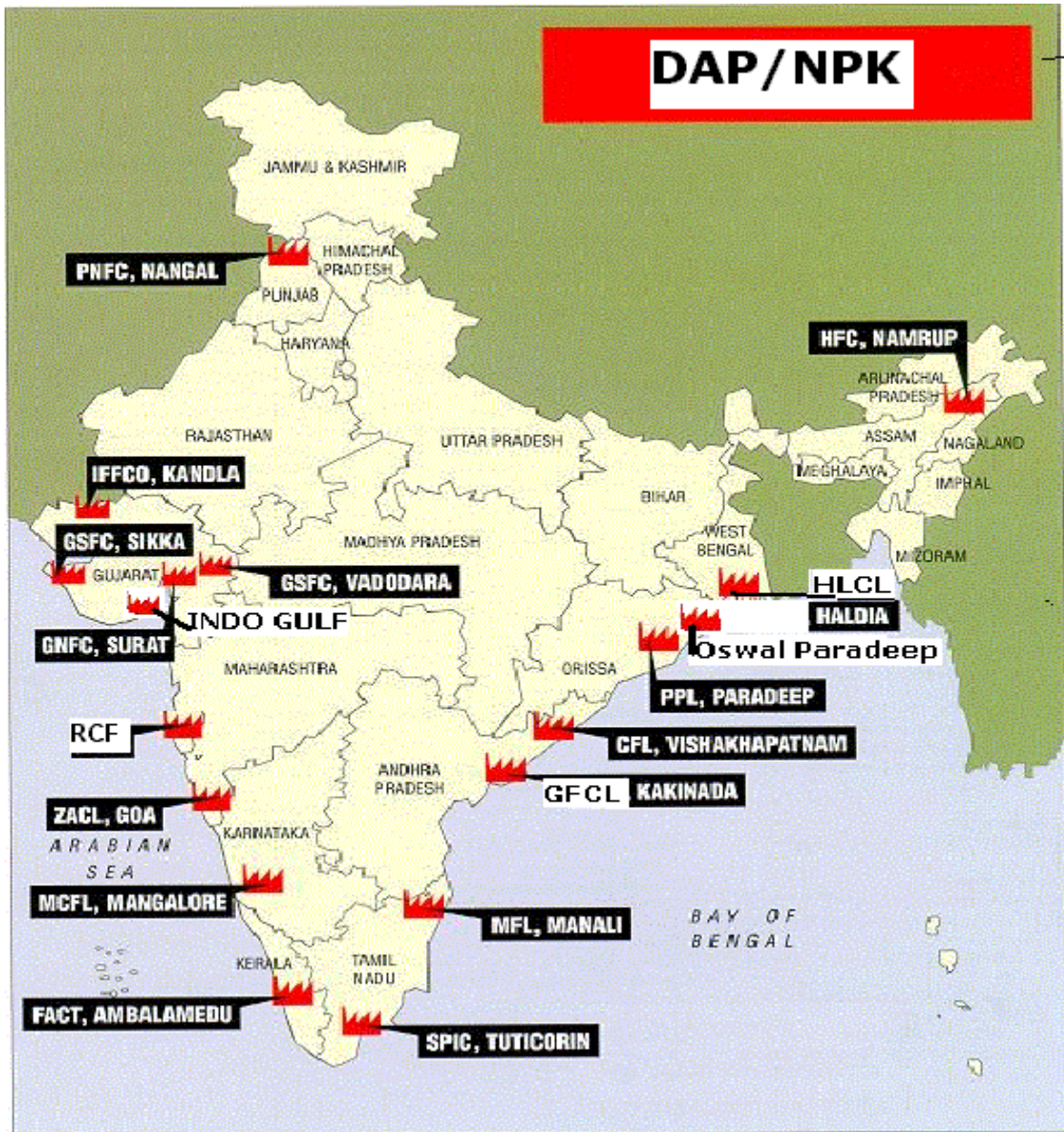
by
Akhil BHARDWAJ
VNB Consultants, India

Indian agriculture has witnessed a qualitative change since 1960's. The Green revolution of the 70's provided the real thrust to agriculture productivity. The Government of India has followed the policy of self-sufficiency due to which we now produce 211 million tonnes (Mt) of food grains (presently, the country has about 50 Mt of surplus food grain) and use about 18 Mt of fertilizer nutrients compared around 0.07 Mt about 50 years back. Government assumes a target of 4% annual increase in food grain production and consumption of 23 Mt fertilizers nutrient by 2007.

India is feeding about 1.01 billion people today and this figure is projected to go up to 1.16 billion by 2010. This self-sufficiency policy has been influenced by the availability of three main nutrients : Nitrogen, Phosphate and Potash. Of the three main nutrients that are required, indigenous raw material is only available for Nitrogen. Under this policy, the Government has provided fertilizers to farmers at subsidized prices in order to increase consumption. As there are about 90 million farmers in India, holding average 5 acres of land, providing subsidy to the farmers directly would be an administrative nightmare. Perhaps with a view to simplify the subsidy-delivery mechanism, the fertilizer units are directed to sell the fertilizer at the Farm Gate Price fixed by the Government. This however has led to fiscal constraints and subsidy reaching \$2.8 billion per annum. Government has therefore taken various steps to reform its domestic fertilizer subsidy system, to bring about efficiency and competitiveness. Steps already taken and those in offing are discussed in this paper.



Location of DAP/NPK Plants in India



DAP/MOP/NPK

The phosphatic and potassic fertilizers were under Retention Price Scheme (RPS) prior to 1992 and were decontrolled w.e.f. August 1992. Under the Concession Scheme, the Government sets the price of major P & K fertilizers. These are free from distribution and movement control and the availability is determined by the market forces of demand and supply. While DAP is available from both indigenous as well as imported sources, MOP is available only through imports as there are no commercially exploitable reserves in the country. DAP have been broadly divided into four Groups on the basis of captive sources or imported sources of intermediates used.

Group	Share in DAP Production	
	Mt products	%
Captive Phosphoric Acid and Captive Ammonia	0.26	4.5
Captive Phosphoric Acid and Imported Ammonia	1.93	33
Imported Phosphoric Acid and Captive Ammonia	0.49	8.5
Imported Phosphoric Acid and Imported Ammonia	3.47	54
<i>Total</i>	<i>5.83</i>	<i>100</i>

CHANGES IN POLICY ON P & K FERTILIZERS

Due to sudden decontrol of P & K fertilizers, the prices rose sharply and consumption dropped significantly. In order to improve consumption of P & K fertilizers, the Government enhanced the Concession in July 1996 from Rs 1000 (\$28) to Rs 3000 (\$84) resulting in increase in consumption.

The following important steps have been taken since 1996-97 to streamline implementation of the Concession Scheme :

1. Maximum Retail Prices (MRP) of DAP, MOP and Complex Fertilizers are indicated every year by the Government.
2. The Department of Fertilizers notifies Base Rate of Concession at the beginning of each financial year for making "On Account" payment ; it is 80 % for Importers and 85 % for Indigenous suppliers.
3. Finalization of rates of Concession is done on quarterly basis after adjusting exchange rate fluctuations and raw material prices.

4. After finalization of the quarterly rates, the difference between the “On-Account Base Rate” and “Final Rate”, the balance payment [20 % (Importers) and 15 % (Indigenous suppliers)] is made after certification of sales by state Governments.

The existing scheme of Concession to Complex Fertilizers is given on proportionate basis to concession on domestic DAP. The Tariff Commission has recommended major deviation from existing policy and has favoured Separate Concession :

1. Plants using either imported ammonia or domestic ammonia made from gas ;
2. Plants based on domestic ammonia made from naphtha/fuel oil.

The weighted average material cost of nutrient has been worked out separately for both the categories.

In respect with other nutrients (‘P’ and ‘K’) costs and “other costs”, weighted average cost has been worked out for all the companies taken together and applied uniformly.

This policy is likely to be implemented shortly and will effect the profitability of few plants.

Table 1

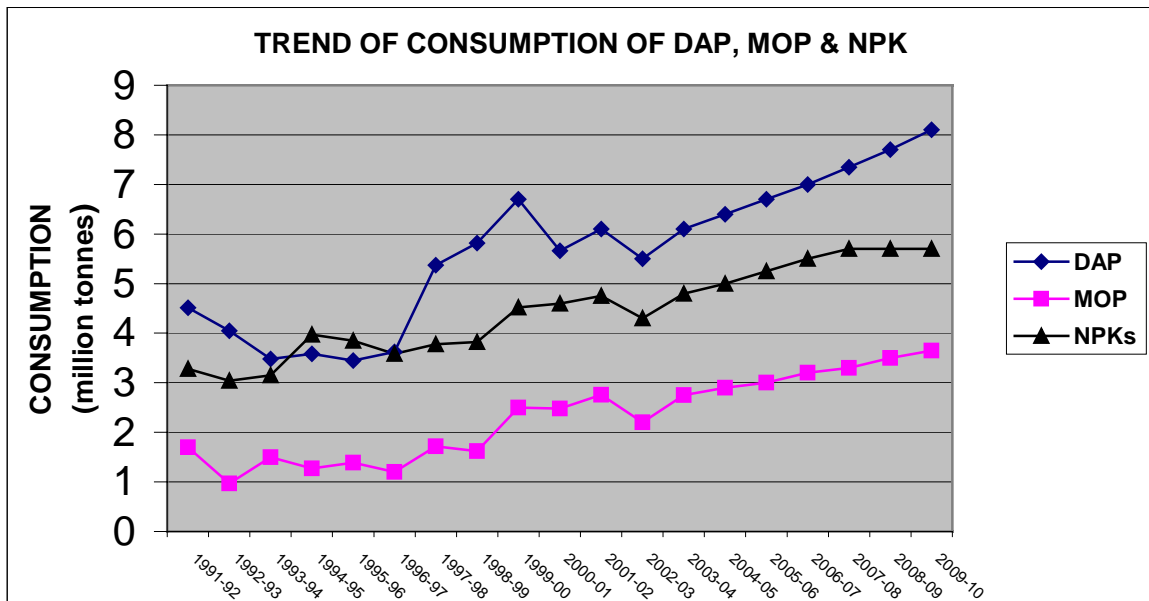
Trends in Consumption, Production and Imports of DAP, MOP & NPK
(Mt products)

Year	DAP			MOP		Complexes	
	Consumption	Production	Imports	Consumption	Imports	Consumption	Production
1991-92	4.51	2.87	2.07	1.70	2.04	3.28	3.49
1992-93	<i>4.05</i>	<i>2.59</i>	<i>1.53</i>	<i>0.97</i>	<i>1.76</i>	<i>3.04</i>	<i>3.51</i>
1993-94	<i>3.48</i>	<i>1.95</i>	<i>1.56</i>	<i>1.50</i>	<i>1.48</i>	<i>3.15</i>	<i>2.90</i>
1994-95	<i>3.58</i>	<i>2.82</i>	<i>0.79</i>	<i>1.27</i>	<i>2.12</i>	<i>3.97</i>	<i>3.58</i>
1995-96	<i>3.45</i>	<i>2.64</i>	<i>1.47</i>	<i>1.39</i>	<i>2.35</i>	<i>3.85</i>	<i>4.05</i>
1996-97	<i>3.62</i>	<i>2.76</i>	<i>0.47</i>	<i>1.20</i>	<i>1.10</i>	<i>3.58</i>	<i>3.59</i>
1997-98	5.37	3.66	1.53	1.72	2.38	3.78	3.52
1998-99	5.82	3.86	2.09	1.62	2.57	3.82	3.77
1999-00	6.70	3.86	3.26	2.50	2.94	4.52	4.99
2000-01	5.66	4.88	0.86	2.48	2.64	4.60	4.73
2001-02	6.10	5.09	0.92	2.76	2.80	4.75	4.90
2002-03	<i>5.50*</i>	<i>5.30</i>	<i>0.40</i>	<i>2.20</i>	<i>2.30</i>	<i>4.30</i>	<i>4.50</i>
2003-04	6.10	<i>5.50**</i>	0.70	2.75	2.80	4.80	5.00
2004-05	6.40	5.60	0.90	2.90	3.00	5.00	5.10
2005-06	6.70	5.70	1.00	3.00	3.15	5.25	5.30
2006-07	7.00	5.80	1.20	3.20	3.30	5.50	<i>5.70***</i>
2007-08	7.35	5.90	1.40	3.30	3.40	5.70	5.70
2008-09	7.70	6.00	1.70	3.50	3.50	5.70	5.70
2009-10	8.10	6.20	2.00	3.65	3.70	5.70	5.70

* Figures in italic show decline in consumption due to sudden decontrol of prices and drought during current year.

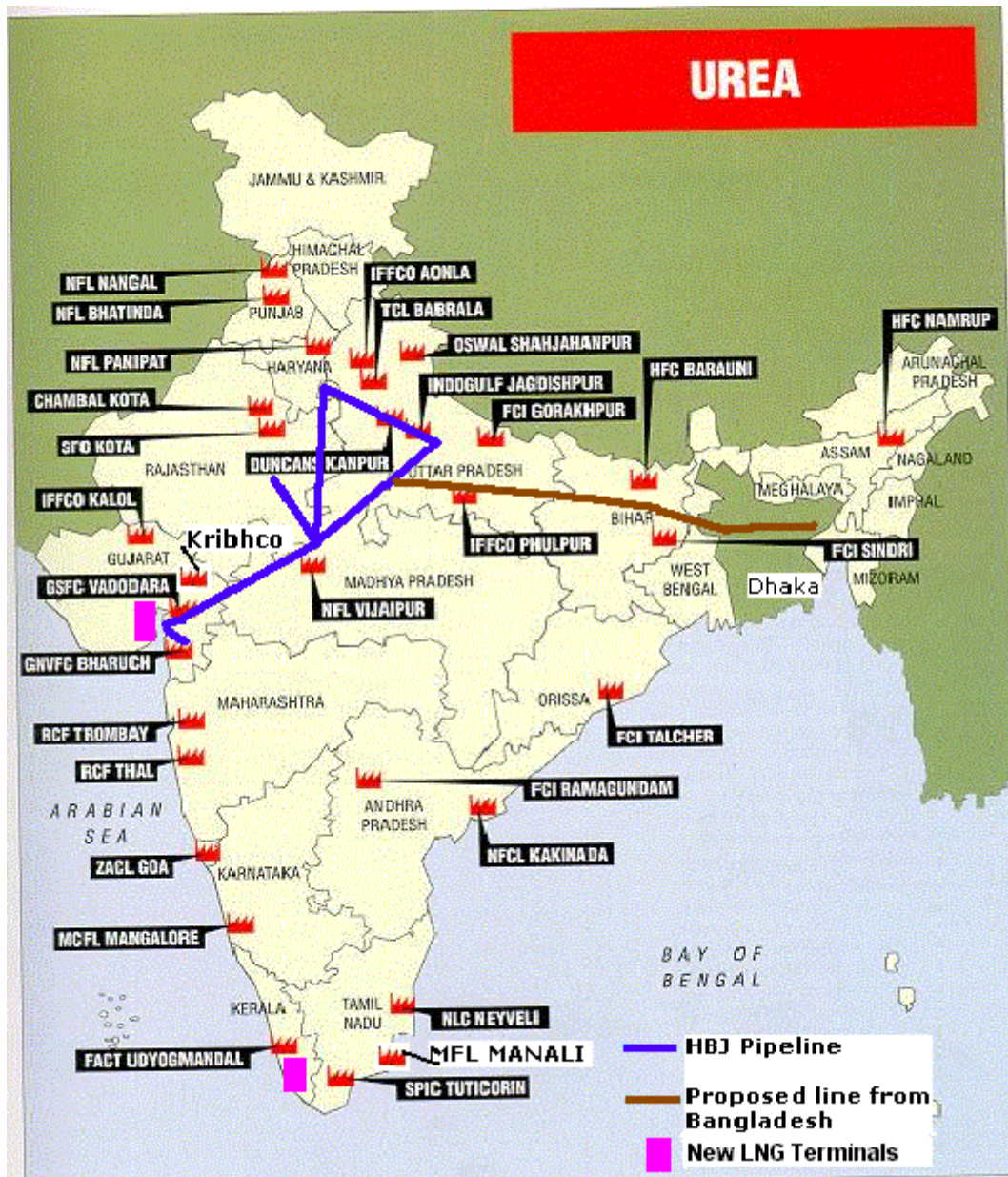
** Increase in DAP production in coming years will mostly depend on the performance of the Oswal DAP plant.

*** NPK production will vary, as some units are switching to DAP and vice-versa depending on requirement and Concession announced by the Government.



- 1.- It is estimated that DAP capacity will remain at around 6.2 Mt products and NPK capacity at around 5.7 Mt for the next 5 years with no new capacity changes announced recently.
- 2.- DAP domestic industry is presently in a disadvantageous situation as the entire raw material has to be imported and 70% of the cost of production is on account of raw material only. Domestic industry is therefore compensated by way of higher concession than imported DAP.
- 3.- Government is granting concession only to selected fertilizers like DAP and MOP and has kept import of other fertilizers like TSP and NPK out of Indian trade in international market.
- 4.- Subsidy on account of Concession given to imported DAP, MOP and indigenous DAP and NPK is presently around USD 1 Billion.
- 5.- Government is going ahead with the policy of Disinvestment and has already disinvested PPL. Disinvestment of Madras Fertilizers, FACT, NFL & RCF are expected in the coming year or so.
- 6.- Average annual growth rate in consumption of DAP & MOP & NPK is likely to be around 5%.
- 7.- Above estimates are based on assumption that Monsoon is normal from 2003 onwards.

Location of Urea Plants in India



Capacity and Availability of Feedstock

('000 mt)

Feedstock	Prices USD/MMBtu	Capacity	Actual Production Urea (2001-02)	(%)
1. Natural Gas	2-2.50	12,243	11,465	(59%)
2. Naphtha	6-6.50	6,013	5,441.7	(29%)
3. Fuel Oil	5.50-6.0	2,478	2,266.4	(12%)
<i>Total</i>		<i>20,734</i>	<i>19,173.5</i>	<i>(100%)</i>

Domestic Gas Allocation vs Availability

MMSCMD (Million Standard Cubic Meters per Day)

Region	Allocation	Current Supply (May 2002)	Projection (2004-2005)
HBJ	48.50	39.9 (82%)	39.00 (80%)
Gujarat	11.22	4.27 (38%)	5.02 (45%)
Uran	16.15	8.52 (53%)	9.35 (58%)
KG Basin	16.26	6.74 (42%)	6.96 (43%)

Natural Gas Projects under Consideration

Natural Gas from Iran – Land Pipeline – Deep Sea Pipeline	Uncertain
Unocal, USA proposes to bring 500 MMcf/d of gas per day from Bangladesh to India.	Though project is viable and gas is likely to be available at around \$4.00 per MMBtu, Bangladesh government has so far not given clearance to the project.

LNG Projects under Consideration and Implementation

Project/Promoter/ Source	Location	Capacity Mt/a LNG	Expected Comm. Date	Remarks
Petronet, India / Qatar	Dahej, Gujarat	5.0 (20 MMSCMD)	April 2004	Progressing
Petronet, India / Qatar	Cochin, Kerala	2.5	2005	Uncertain
Reliance, India / Iran	Jamnagar, Gujarat	5.0	2007	Possible
Enron, USA / Qatar	Dabhol, Maharastra	5.0	-	Hold
Shell, USA /	Hazira, Gujarat	2.5 (10 MMSCMD)	2007	Progressing

The present total capacity of gas is 70 MMSCMD against requirement of 120 MMSCMD. The shortage of gas supply was experienced by all-gas based fertilizer plants throughout 2001/02 resulting in drop of production of urea by about 0.65 Mt compared to previous year. This trend will continue in coming years also. Gas prices indicated above are presently subsidized and work out to 50% of import parity price of fuel oils. Government has taken decision to link gas prices to reach 100% parity with fuel oils by October 2003. This will result in almost doubling the price of gas. Concession for plants based on Naphtha and Fuel oils/LSHS (Light Sulfur Heavy Stock) are already linked to the respective import parity prices of these feedstocks.

Availability of Naphtha in the country is likely to remain in surplus due to increased refining capacity of domestic oil refineries, while a deficit has been indicated in case of FO/LSHS (Fuel Oil / Light Sulfur Heavy Stock). Present indicative price of LNG when available in 2004 is around \$5 per MMBtu which is about 20% lower than present prices of Naphtha. However it is anticipated that Naphtha suppliers will be forced to reduce price to match LNG price once later is available in 2004.

In a recent development, Petroleum Ministry proposes to compute weighted average price of natural gas & LNG, so that delivered price of pooled gas is brought down to less than \$4 per MMBtu. (New LNG policy being framed and likely to be announced shortly.)

Retention Price-Cum-Subsidy Scheme (RPS) is fixed unit wise under which the difference between normative cost of production with reasonable return (12%) on net worth and statutory notified sale price is reimbursed to producers as subsidy.

The Retention Price is revised once in ' 3 ' years also referred to as pricing period.

VIIth Pricing period is 1.7.97 to 31.3.2000.

VIIIth Pricing period is 1.4.2000 to 31.3.2003.

On recommendations of HPC (High Powered Fertilizer Pricing Policy Review Committee) report of April 1998 & ERC (Economic Reform Commission) Reports of September 2000, Group of Ministers (GOM) / CCEA (Cabinet Committee on Economic Affairs) has recently approved following important changes under VIIth & VIIIth pricing policy.

<i>Basis of Parameters for Making Changes in VIIth & VIIIth Pricing Policy.</i>	<i>Parameters Approved by GOM/CCEA for VIIth & VIIIth Pricing Policy.</i>
Committee found that 20 urea plants were actually producing more than their License capacity.	Capacity reassessment of manufacturing capacity units of 20 units effective 1.4.2000.
Committee found that many units implemented variety of energy saving measures leading to lower energy consumption and reduction in consumption of other inputs and utilities.	Fixation of norms for consumption of raw material and other inputs on the basis of "Actual" achieved during VII th & VIII th pricing period.
Committee found that with improved technology capacity utilization has improved.	Increase in capacity utilization norm for gas-based plants from the existing 90% to 95% and for plants based on naphtha and fuel oil from existing 85% to 90% from 1.4.2000.
Vintage allowance of 5% each in case of capacity and energy consumption was allowed for units in operation for more than 10 years.	Withdrawal of vintage allowance currently available at 5% in respect of capacity utilization and consumption of raw materials for plants more than 10 years old, as the units were already producing more than 100% capacity.
Streamlining of various fixed costs.	Updating of various items of conversion cost, working capital, selling expenses, etc.

Impact of VIIth & VIIIth Pricing Policy

1. Reassessment of capacity of 20 urea units. Revision in consumption norms of 13 units has resulted in recovery of about US\$ 200 million from urea producers causing liquidity problems to several units.
2. Above policy and recoveries have resulted in the closure of Duncan in March 2002 (0.72 Mt), & NLC Neyveli in April 2002 (0.15 Mt). FACT (0.33 Mt) continues to remain closed since August 2001.

LONG TERM UREA POLICY

Objectives

- a/ Food production should not slump ;
- b/ It should protect small farmer's real income ;
- c/ It should be transparent and easy to administer ;
- d/ It should not ignore socio-economic aspect while reducing subsidy ;
- e/ It should lead to effective reduction in overall subsidy burden at the manufacturing level ;
- f/ It should encourage cost efficiency and competitiveness among the urea manufacturing units ;
- g/ It should encourage the domestic units to manufacture urea at par with import parity in the long run.

Stages	Changes approved by Group of Ministers	Impact of Changes
<p><i>Stage 1.</i></p> <p>1.7.2003 to 31.3.2004</p>	<p><i>a/ RPS to be replaced by Group based concession scheme.</i></p> <p><i>b/ Units to be categorized into 7 Groups :</i></p> <p>1/ Gas Pre-1992 2/ Gas Post-1992 3/ Naphtha Pre-1992 4/ Naphtha Post-1992 5/ FO/LSHS 6/ Mixed Energy 7/ Outliners : units with prices showing a standard deviation of more than 20% from the group average price, these units will be given a price which is average of their individual prices and the Group prices.</p> <p><i>c/ Units in each group would be allowed concessions based upon weighted average retention prices.</i></p> <p><i>d/ Those units whose prices are lower than the group average price shall get the actual individual retention prices.</i></p> <p><i>e/ 1.4.2003 to 1.4.2004, 50% production of units permitted to sell outside ECA at notified MRP.</i></p> <p><i>f/ Urea prices are increased by 7% each year.</i></p>	<p>It is estimated that subsidy will be substantially reduced.</p>
<p><i>Stage 2.</i></p> <p>1.4.2004 to 31.3.2006</p>	<p><i>a/ Units be categorized into 5 Groups :</i></p> <p>1/ Gas Pre-1992 2/ Gas Post-1992 3/ Naphtha 4/ FO/LSHS 5/ Mixed Energy</p> <p><i>b/ Distribution control will be fully eliminated.</i></p> <p><i>c/ Modulation on account of reduction in capital related charges and group energy consumption norms for the respective groups.</i></p>	<p>No adverse impact on efficient units.</p> <p>Inefficient units would be given 3 years time for financial and technological adjustments.</p>

<p><i>Stage 3.</i></p> <p>1.4.2006 onwards</p>	<p><i>a/ Details will be worked after review of implementation of Stages 1 & 2.</i></p> <p>Proposals under consideration :</p> <p>1/ Urea industry is decontrolled.</p> <p>2/ Number of groups are reduced from 5 to 2, i.e. Gas and LNG/Naphtha Based.</p> <p>3/ No concession applicable to Gas-based units, LNG/Naphtha units will be given fixed feedstock differential cost. Reimbursement of Rs 1900 (Approx. \$19).</p> <p>4/ With 7 % increase in prices of urea every year, prices should reach Rs 7000 per Mt which would likely to be import parity price of urea.</p>	<p>Inefficient units will be severely effected.</p> <p>Production likely to decline.</p>
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Above changes approved by Group of Ministers on October 9, 2002 now need approval from Cabinet Committee before implementation.

Group Based Concession Scheme for Urea approved by GOM

Group	Plants	R.P. Range	Estimated Production Capacity (000't)	Expected Production during (2002-03)	Estimated Subsidy in Each Group RPS-MRP	Total Subsidy in Each Group
Gas Pre-92	6	R.P. Range = 4942-6357* #Group Avg. R.P. = 5273 (\$108)	4,981	4,481	\$108-\$100 = \$8	USD 35 million
Gas Post-92	6	R.P. Range = 6140-7475 Group Avg. R.P. = 6860 (\$141)	4,917	4,917	\$141-\$100 = \$41	USD 201 million
Naphtha Pre-92	8	R.P. Range = 10679-12706 Group Avg. R.P. = 11578 (\$238)	3,826	2,774	\$238-\$100 = \$138	USD 380 million
Naphtha Post-92	2	R.P. Range = 10714-11574 Group Avg. R.P. = 11144 (\$229)	1,728	1,728	\$229-\$100 = \$129	USD 223 million
FO/LSHS	6	R.P. Range = 9883-11242 Group Avg. R.P. = 10387 (\$213)	2,619	2,136	\$ 213-\$100 = \$113	USD 241 million
Mixed Energy	4	R.P. Range = 7195-9185 Group Avg. R.P. = 7877 (\$162)	2,996	2,996	\$162-\$100 = \$ 62	USD 185 million
TOTAL	32		21,067	19,032		USD 1,265 million

* Retention prices given are indicative and subject to change every quarter.
Group Average R.P. = Weighted Average Retention Price of the Group.

Estimated Average Annual Growth in Consumption of Urea from year 2002 Onwards

Year	Consumption Mt	Production Mt	Import Mt	Consumption Growth (%)	Remarks
1991-92	14.03	12.83	0.39	- 0.4	Actual
1992-93	14.90	13.12	1.85	6.2	Actual
1993-94	15.81	13.15	2.84	6.1	Actual
1994-95	17.11	14.13	2.88	8.2	Actual
1995-96	17.90	15.80	3.78	4.6	Actual
1996-97	19.02	15.62	2.32	6.2	Actual
1997-98	19.61	18.59	2.38	3.1	Actual
1998-99	20.39	19.29	0.55	3.9	Actual
1999-00	20.27	19.80	0.53	- 0.5	Actual
2000-01	19.18	19.62	0.00	- 5.3	Actual
2001-02	20.17	19.13	0.22	3.2	Actual
2002-03	19.00*	18.60	0.00	- 5.0	Estimate
2003-04	20.00	18.50	0.50	9.4	Estimate
2004-05	20.50	18.50	1.50	2.5	Estimate
2005-06	21.00	18.50	2.00	2.5	Estimate
2006-07	21.50	18.20	3.00**	2.0***	Estimate
2007-08	21.95	18.00	3.50	2.0	Estimate
2008-09	22.40	18.00	4.00	2.0	Estimate
2009-10	22.85	18.00	4.50	2.0	Estimate

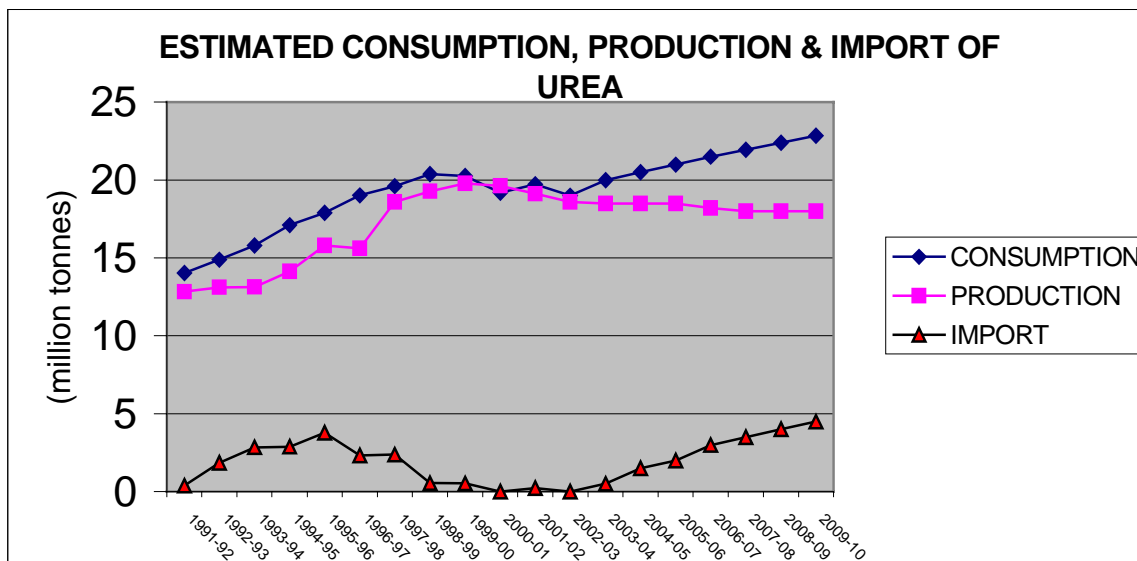
* Estimated decline in consumption due to drought in the country during June-early August 2002.

** This includes import of about 1.6 Mt urea from OMAN/IFFCO, KRIBHCO JV.

*** Consumption in growth rates likely to decline due to decontrol and increase in prices of urea.

Above import estimates exclude about 0.4 Mt urea being imported by NPK plants.

Above estimates are based on assumption that monsoon rains are normal and there is pipeline stock of around 1 Mt every year in the country.



CONCLUSION

The reforms initiated by Government for the last few years have moved 'Slowly' but 'Surely'. The reports of various Committees in the past have helped the Indian Government to streamline fertilizer policies in order to reduce subsidies and bring efficiency in the fertilizer sector.

Recent implementation of VIIth & VIIIth Pricing policy and approval of Long Term Policy by Group of Ministers (GOM) will have significant “negative” impact on the viability of several units with high retention prices resulting in decline in production and possible closure.

There is not enough natural gas in the country to support domestic fertilizer plants and the best option is to either supply from Bangladesh or switch to imported LNG for which heavy investment on infrastructure need to be done for transporting gas.

The domestic industry will have to strive hard to remain competitive with imports which are expected to increase significantly. The Indian Government, while initiating policy changes, should also increase prices of fertilizers every year in order to curtail subsidies. However, Government in the past due to political reasons has often missed this aspect.