Confederation of Indian Industry

CII Southern Region

Industry and Economic Update

Chemicals and Fertilisers

October-December 2009

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Recent Developments

The fertiliser sector, which is currently operating under several constraints including policy-related issues, is likely to see an immediate investment flow of about Rs. 35,000 crore or US$ 7.5 billion. This amount is towards the creation of additional capacities once the government decontrols the sector. The capacity creation is expected to happen in urea and DAP segments as the country is currently importing these two varieties due to shortfall in the domestic market.

Currently, the country is importing about 12 million tonnes (MT) of fertilisers, including 6 MT of urea and another 6 MT of DAP. Immediate investments of these two varieties are expected to happen once the government decontrols the sector.

On decontrolling the sector, the additional capacities would be ready for production in about 24-36 months. The fertiliser sector is currently under the control of the government and all elements of the sector, including the cost of production and the price of fertilisers, are directly controlled by the central government.

The Board for Reconstruction of Public Sector Enterprises (BRPSE) has proposed to the government a revival of five sick fertiliser units, which will involve an investment of over Rs 50,000 crore.

The Centre would launch a scheme that would enable farmers get fertiliser subsidy directly. The direct fertiliser subsidy scheme would be introduced initially in two districts, including Madurai, in Tamil Nadu.

POLICY DEVELOPMENTS

Fertilisers

The Government has set up a Group of Ministers under the Finance Minister to take up the issue of overhauling the fertiliser subsidy policy and shifting towards a regime of providing the dole-out directly to farmers. The Budget 2009-10 had announced moving towards a regime where subsidy would be granted on nutrients (like N, P, K that go into the making of fertilisers) instead of the current practice of providing dole-out on prices of fertilisers. It had also proposed the government's long-term goal of supplying fertiliser subsidy directly to farmers instead of routing it through the industry. The GoM will decide on when to shift to the new subsidy regime and also the time frame for moving to the system of direct subsidy to farmers.

The DoF notified in July 2009 modifications in certain elements of the concession scheme for P & K fertilisers. These inter-alia include the following:

- The concession rate for DAP, MAP, TSP and MOP will now be based on the average international price of the month preceding the last month (as against the earlier practice of preceding month) or the actual weighted average of C&F landed price of the current month, whichever is lower w.e.f April 1, 2009.

- The Tariff Commission is reviewing the factors of escalations/de-escalations in the nutrient price for complex fertilisers. Updation in these factors w.e.f. 1st April, 2009 will be carried out in consultation with the Department of Expenditure; Ministry of Finance after the Tariff Commission's recommendation is received by Government.
- For computation of concession for complex fertilisers, N price based on four groups (natural gas, naphtha, urea, imported ammonia mix and imported ammonia) as adopted by Government based on recommendations of Tariff Commission will be used w.e.f. 1st April, 2009 as against the earlier practice of adopting different price of N for each complex for each company.

Petrochemicals

Government-owned Indian Oil Corporation (IOC) is aiming to have 15 per cent of its revenue from petrochemicals in the next three years. This is part of a strategy to invest around Rs 60,000 crore in capacity-building in the next five years.

INDUSTRY UPDATE

Chemicals Industry in India

The Chemicals Industry is one of the oldest industries in India, which contributes significantly towards industrial and economic growth of the nation. It is highly science based and provides valuable chemicals for various end products such as textiles, paper, paints and varnishes, leather etc., which are required in almost all aspects of life.

The Chemical Manufacturing subsector is based on the transformation of organic and inorganic raw materials by a chemical process and the formulation of products. This subsector distinguishes the production of basic chemicals that comprise the first industry group from the production of intermediate and end products produced by further processing of basic chemicals that make up the remaining industry groups.

India manufactures over 70,000 chemicals and is the 12th largest producer of chemicals in the world. Chemicals industry size is estimated to be around 160,000 crore or US$35 billion[1]. The industry constitutes about 3% of GDP and 18% of manufacturing sector. The chemicals industry employs around 1 million people.

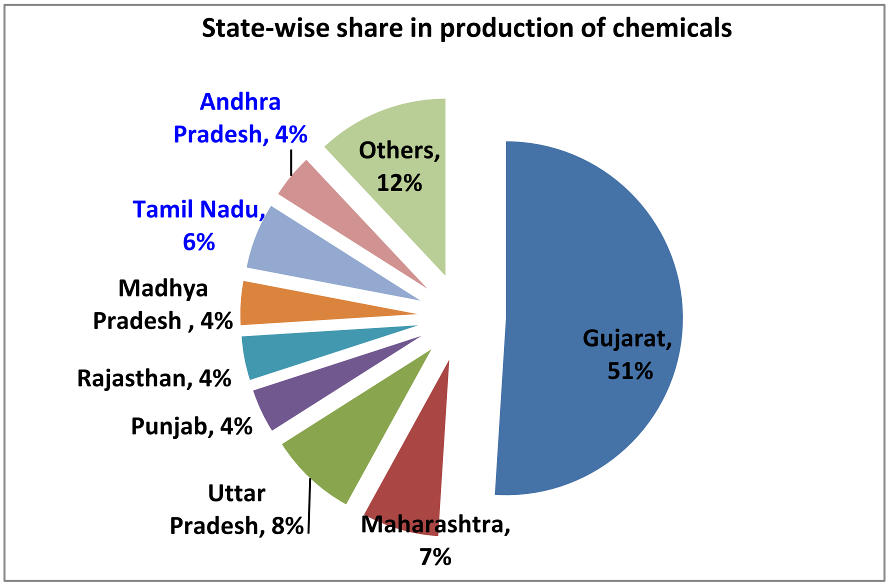
The Indian Chemicals Market Segment

Segment	Market Value (billion US$)
Basic Chemicals	20
Specialty Chemicals	9
High End / Knowledge Segment	6
Total	35

Source: Department of Chemicals and Petrochemicals

[1] Department of Chemicals and Petrochemicals and Investment Commission of India

State-wise Share in Production of Chemicals



Source: Ministry of Chemicals & Fertilisers, IMaCS Analysis

Production of Major Chemicals

In '000 MT

Year	Alkali Chemicals	Other inorganic chemicals	Organic chemicals	Pesticides	Dyes & dyes	Total major chemicals
2005-06	5475	544	1545	82	30	7676
2006-07	5269	602	1545	85	33	7534
2007-08	5443	609	1546	83	44	7725
2008-09	5430	504	1212	74	31	7251

Source: Department of Chemicals and Petrochemicals

Key Players in the Indian Chemicals Industry

1	Reliance Industries Limited (RIL)
2	Gas Authority of India Limited (GAIL)
3	Haldia Petrochemicals Limited
4	Tata Chemicals
5	Ciba
6	Rallis
7	Hindustan Organic Chemicals (HOCL)
8	Gujarat Narmada Valley Fertilisers Corporation

Source: IMaCS Analysis

Fertilisers Industry in India

Fertiliser is generally defined as "any material, organic or inorganic, natural or synthetic, which supplies one or more of the chemical elements required for the plant growth". The Indian fertiliser industry concerns itself with providing the three main nutrients – Nitrogen, Phosphorous and Potassium. Besides, being used as fertilisers themselves, these three nutrients are combined to produce several complex fertilisers.

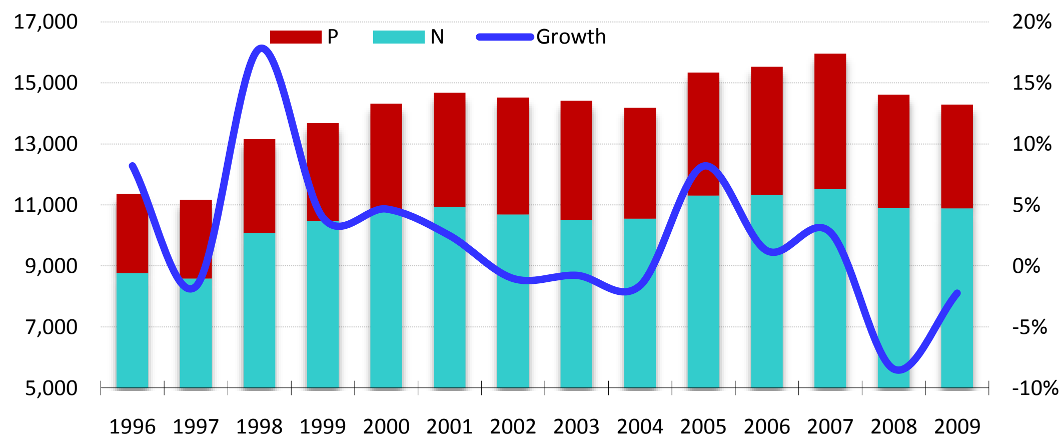
India is the third largest producer and consumer of fertilisers in the world.

India's Fertiliser Production

Currently, India has about 42 MT of installed capacity to produce fertilisers. Of this, about 20 MT is for production of urea and about 13 MT is for DAP and other nutrients. About 7.2 MT capacities have been set up for production of Single Super Phosphate (SSP) fertiliser. The capacity expansion is likely to happen in various modes including greenfield projects, brownfield projects and revival of 7-8 closed fertiliser units.

It is estimated that by the end of this quarter, the total subsidy in fertilisers alone would be about Rs. 70,000 crore as against budgetary allocation of about Rs. 49,000 crore.

Nutrient terms



Source: IMaCS Analysis

Requirement and production of major fertilizers

Year	Particulars	Urea	DAP/MAP/TSP	Complex Fertilisers	Muriate of Potash (MOP)
2008-09	Requirement	281.34	94.83	92.32	37.86
	Production	199.22	29.93	68.48	-
	Import	56.67	66.29	-	56.33*
	Total (Production + Import)	255.89	96.22	-	-
	Availability	270.88	99.78	72.26	43.34
	Sales	266.51	99.03	71.22	40.95
2009-10 (April 2009-October 2009	Requirement	159.70	70.46	56.97	26.53
	Production	120.28	29.08	44.17	-
	Import	32.76	45.09	-	27.08
	Total (Production + Import)	153.04	74.17	-	-
	Availability	149.80	74.04	45.26	23.84
	Sales	142.36	72.66	43.52	22.71

* This is inclusive of the quantities imported for industrial purpose for which no subsidy is paid.
Source: Ministry of Chemicals and Fertilisers

There is no indigenous production of MOP as there are no exploitable reserves of MOP in the country.

No new capacity in indigenous production of fertilizers is added in the last few years because in urea sector availability of gas is a major constraint and P&K sector depends on imported raw materials. To increase investment in urea sector a new investment policy to attract investment has already been announced and revival of closed units is under active consideration of the Government to enhance indigenous production of urea.

The Fertilizer subsidy is not disbursed State-wise. It is transferred to the farmers in the form of subsidized Maximum Retail Prices (MRPs) notified by the Government, which are much below the normative delivered cost of these fertilizers. The difference between normative delivered cost and the notified MRPs is released as fertilizer subsidy to manufacturers/importers of these subsidized fertilizers on receipt of fertilizers in the district.

The Government intends to move towards a nutrient based subsidy regime instead of the current product based pricing regime, in order to ensure balanced application of fertilizers. The proposal for Nutrient Based Subsidy is under consideration of a Group of Ministers (GOM) constituted to examine the proposed nutrient based subsidy policy and measures for rationalisation of fertilizer subsidy disbursement.

The quantum of subsidy disbursed by Government on fertiliser during the last three years and the expenditure on subsidy for the current year till 13th November, 2009 is as below:

Quantum of Subsidy Disbursed by the Government

(Rs. in billion)

Period	Amount of concession disbursed on decontrolled fertilisers (indigenous + imported)	Amount of subsidy disbursed on urea			
		Indigenous urea	Imported urea	Total for urea	Total of all fertilisers
2006-07	10298.12	12650.37	5071.06	17721.43	28019.55
2007-08	16933.80	16450.37	9934.99	26385.36	43319.16
2008-09	65554.79	20968.74	12971.18	33939.92	99494.71
2009-10 (Expenditure upto 13.11.09)	24037.34	10410.81	4311.54	14722.35	38759.69
TOTAL	**116824.05**	**60480.29**	**32288.77**	**92769.06**	**209593.11**

Source: Ministry of Chemicals and Fertilisers

Since the fertiliser subsidy is transferred to farmers through subsidised MRPs, small and marginal farmers are also benefited to the extent they use fertilisers in their fields. Further the Government is looking into various possibilities for delivery of fertilisers' subsidy to the farmers. However, no final decision has been taken on any alternative mode of disbursal of subsidy inter-alia including direct subsidy to farmers according to their economic status or targeted subsidy to small and marginal farmers.

Recent Developments

- In the Post-Monsoon season, cumulative rainfall received for the country as a whole during the period 1st October to 9th December, 2009 was 128.5 mm which is 9% above the L.P.A.

- The Government has revised kharif rice output estimates by over 3% or 2.2 million tonnes. Even after this revision, the country's kharif rice output would still be lower by over 15% compared to last year's output of 84.58 million tonnes. The sowing and productivity this kharif season was affected by the worst monsoon in 37 years. Accordingly, the production estimates of kharif cereals and food grains also stand revised to 94.41 million tonnes and 98.83 million tonnes.

Week-By-Week Progress of Cumulative Seasonal Rainfall

Percent below normal (-)/above normal (+)

	Country as a whole	North-west India	Central India	South Peninsula	North East India
01.07.09	-46	-45	-59	-31	-41
08.07.09	-36	-50	-40	-18	-34
15.07.09	-27	-43	-15	-12	-40
22.07.09	-19	-38	3	-6	-43
29.07.09	-19	-33	1	-15	-39
05.08.09	-25	-40	-13	-18	-36
12.08.09	-29	-43	-19	-23	-36
19.08.09	-26	-37	-22	-20	-27
26.08.09	-25	-40	-20	-14	-25
02.09.09	-23	-39	-17	-11	-26
09.09.09	-20	-34	-15	-8	-23
16.09.09	-21	-32	-17	-8	-26
23.09.09	-22	-34	-19	-8	-25
30.09.09	-23	-36	-20	-4	-27

Source: IMD, Ministry of Earth Sciences

Weekly and Cumulative Rainfall in four regions of the country

Region	Week Ending (16.12.09)				Cumulative (1.10.09 to 16.12.09)			
	(in mm)		Deviation (%)	Category	(in mm)		Deviation (%)	Category
	Actual	Normal			Actual	Normal		
North West	3.1	6.2	-51	D	49.1	50.0	-2	N
Central India	0.0	1.7	-99	S	115.4	77.6	49	E
South Peninsular India	9.8	7.8	26	E	274.8	259.7	6	N
North-East India	0.1	4.1	-99	S	128.6	156.1	-18	N
Country as a whole	2.9	4.7	-38	D	128.5	117.4	9	N

E: Excess, N: Normal, D: Deficient, S: Scanty, NR: No Rain

Source: IMD

Rainfall Situation

State	Jan-Feb 2009 (Winter Season)		Mar-May 2009 (Pre-monsoon)		June-Sep 2009		Oct-Dec 2009 (North East Monsoon)		Annual 2009 (Till 16.12.09)	
	Actual	**Normal**	**Actual**	**Normal**	**Actual**	**Normal**	**Actual**	**Normal**	**Actual**	**Normal**
Andhra Pradesh	1.1	11.1	52.4	74.3	448.5	607.8	186.8	204.4	688.8	897.6
Tamil Nadu	7.8	35.2	130.0	128.7	315.3	315.6	436.4	404.7	889.5	884.2
Karnataka	0.0	4.8	117.9	127.2	1004.8	834.7	237.8	176.7	1360.5	1143.4
Kerala	4.5	28.1	321.7	427.8	1959.4	2143.0	500.6	488.7	2786.2	3087.6

Source: Department and Agriculture and Co-operation

Area Coverage under Rabi Crops

Upto December 18, 2009

	Normal Area	Area Sown (in lakh hectares) 2009	Area Sown (in lakh hectares) 2008	Change
Wheat	270.99	231.32	226.01	5.3
Rice	39.80	3.99	2.73	1.3
Coarse Cereals	62.54	59.19	63.30	-4.1
Pulses	119.19	122.11	112.60	9.5
Oilseeds	95.42	82.04	85.16	-3.1
Total				

Cyclicality

Prior to the 1950s, organic manures were almost the only sources of soil and plant nutrition. Owing to a high animal population, farmyard manure (primarily cattle manure) is the most common organic manure. However, the Green Revolution in the 1960s resulted in the advent of modern methods based on high yielding varieties (HYV) seeds and chemical fertilisers. In order to reap the potential of the new HYV seeds, farmers also rapidly increased their use of chemical fertilisers and pesticides. As compared with organic materials, chemical fertilisers result in greater productivity through a significant improvement in crop yields and agricultural production.

The major demand determinants of fertiliser demand are input prices, output prices, area under HYV seeds, area under irrigation, availability of credit and farm size distribution. There is a strong empirical correlation between the area under HYV and area under irrigation, and fertiliser consumption. In fact, the fertiliser consumption per hectare (ha) is often considered a proxy for the level of modernisation of agriculture. A higher level of modernisation signifies assured irrigation, use of HYV seeds and employment of modern practices such as use of fertilisers, pesticides, and farm machinery.

Nutrient Consumption of Fertilisers and Share

FY	Consumption (thousand tonnes) N	P	K	Share N	P	K
1994	8,788	2,669	909	71.1%	21.6%	7.3%
1999	11,354	4,112	1,332	67.6%	24.5%	7.9%
2003	10,474	4,019	1,601	65.1%	25.0%	9.9%
2004	11,077	4,124	1,598	65.9%	24.6%	9.5%
2005	11,714	4,624	2,061	63.7%	25.1%	11.2%
2006	12,723	5,204	2,413	62.6%	25.6%	11.9%
2007	13,773	5,543	2,335	63.6%	25.6%	10.8%
2008	14,419	5,515	2,636	63.9%	24.4%	11.7%
2009	15,222	6,572	3,358	60.5%	26.1%	13.4%

Source: Ministry of Chemicals and Fertilisers and IMaCS Analysis

- Fertiliser demand is at 520.45 lakh tonnes for the year 2009-10. The demand during Kharif 2009-10 is estimated at 254.70 lakh tonnes and 265.75 lakh tonnes for Rabi.

India's Installed Capacity and Production of Fertilisers

Thousand tonnes of nutrients

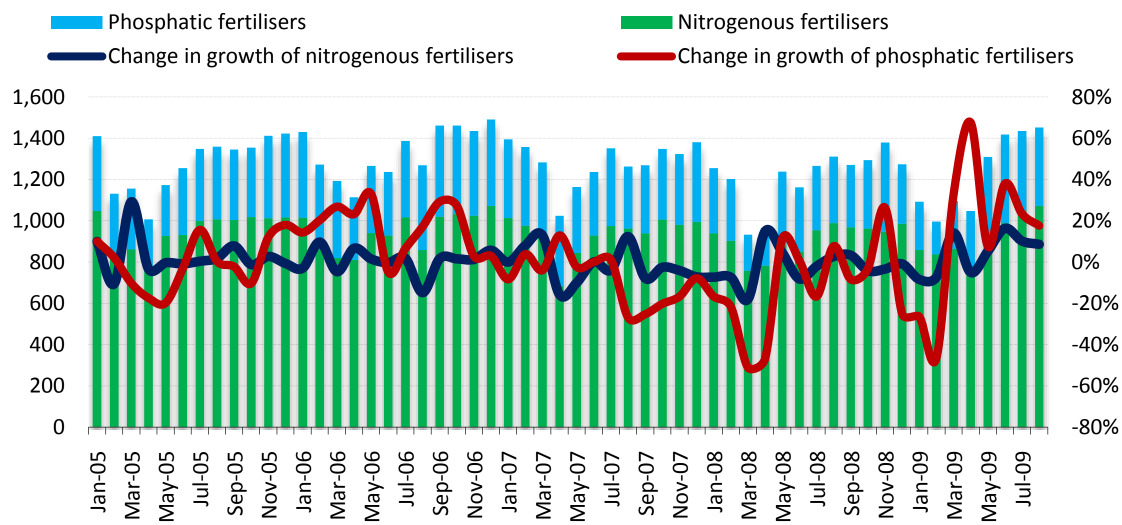
FY	2003	2004	2005	2006	2007	2008	2009
Capacity	**17,571**	**17,568**	**17,688**	**17,748**	**18,020**	**18,143**	
N	**12,238**	**12,166**	**12,208**	**12,288**	**12,284**	**12,284**	
Straight N	10,007	10,007	9,956	10,066	10,066	10,066	
Of which urea	9,588	9,588	9,567	9,677	9,677	9,677	
Through NP/NPKs	2,231	2,159	2,252	2,222	2,218	2,218	
P	**5,333**	**5,402**	**5,480**	**5,460**	**5,736**	**5,859**	
Straight P205	964	980	982	1,068	1,076	1,204	
Through NP/NPKs	4,369	4,421	4,499	4,391	4,661	4,655	
Production	**14,415**	**14,183**	**15,343**	**15,536**	**15,965**	**14,617**	**14,292**
N	**10,508**	**10,557**	**11,305**	**11,333**	**11,525**	**10,903**	**10,894**
Straight N	8,741	8,936	9,504	9,430	9,510	9,259	9,310
Through NP/NPKs	1,767	1,621	1,801	1,903	2,015	1,644	1,584
P	**3,908**	**3,627**	**4,038**	**4,203**	**4,440**	**3,714**	**3,397**
Straight P205	385	407	394	447	476	359	388
Through NP/NPKs	3,523	3,220	3,645	3,755	3,965	3,355	3,009

Compiled by IMACS

Production continued to increase at a low rate mainly due to shortage of natural gas (NG) and raw materials (mainly phosphoric acid). However, after many months of decline, production increased in March 2009 with yoy increase in production of all major fertilisers.

Growth in Fertiliser Production

year on year (yoy)

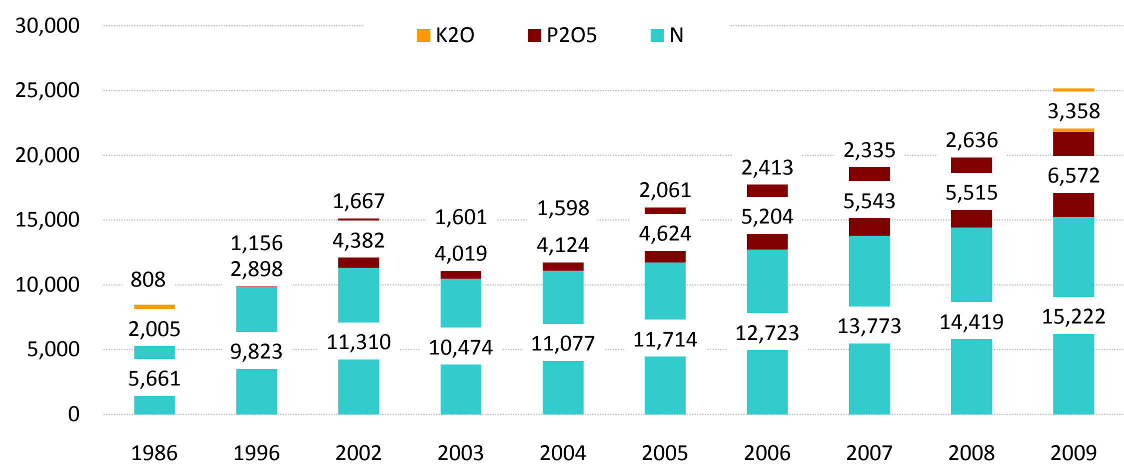


During FY2009, the contributions of Nitrogen, Phosphorus and Potassium to the total nutrient consumption of 25.15 mt in the country were 60.5%, 26.1% and 13.4%, respectively. The high share of Nitrogen fertiliser consumption is primarily because of the fact that nitrogen deficiency in Indian soils is almost universal. In the Indo-Gangetic plains, medium-high yields cannot be obtained anywhere without Nitrogen application. Phosphorus deficiencies are also high with Phosphorus fertility being low or medium in nearly 95% of districts. Potassium deficiencies have also increased because of depletion of soil potassium, especially in the Indo-Gangetic plains. Sulphur deficiency is also an important problem in many states and soils in large number of districts of the Indo-Gangetic Plains are considered to be suffering from Sulphur deficiency to varying extents.

During August 2009, the production of Nitrogen fertilisers registered a yoy growth of 8.5%, while phosphatic fertilises production registered a yoy growth of 5.8%.

Nutrient Content of India's Fertiliser Consumption

FY, Thousand tonnes



Source: IMaCS Analysis

Because of the widespread deficiency of Nitrogen, the fertiliser consumption ratio has favoured N nutrients. However, the share of Nitrogen has declined from 71% in FY1996 to 60.5% in FY2009.

The intensity of fertiliser consumption varies greatly between various regions. Amongst the major crop producing states, fertiliser consumption varies from 48.9 kg/ha in Rajasthan to 221 kg/ha in Punjab.

Fertiliser Consumption

Kg/ha

FY	2003	2004	2005	2006	2007	2008	2009
EAST	74.2	72.8	80.1	88.2	95.6	101.6	122.2
NORTH	134.4	139.7	144.9	152.0	156.7	159.7	168.7
SOUTH	111.3	110.2	130.5	152.8	157.0	161.4	189.6
WEST	60.2	56.8	64.5	67.2	75.9	81.2	87.7
INDIA	**91.6**	**88.3**	**96.6**	**105.5**	**111.8**	**116.5**	**129.8**

Source: IMaCS Analysis

According to estimates by the WG on Fertilisers for the 11th Five Year Plan (2007-12), India's fertiliser consumption is expected to increase at an annual average of 4% from 22.45 mt in FY2007 to 26.9 mt in FY2012.

India's Region-wise N Fertilisers' Capacity, Production and Consumption

	Volume (thousand tonnes)						Growth	
FY	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2009**	**2007-09**
Capacity	**12,166**	**12,208**	**12,288**	**12,284**	**12,290**	**12,290**	**0.0%**	**0.0%**
East	863	863	953	953	953	953	0.0%	0.0%
North	3,742	3,742	3,742	3,742	3,742	3,742	0.0%	0.0%
South	2,191	2,254	2,254	2,199	2,206	2,206	0.0%	-0.7%
West	5,418	5,418	5,340	5,390	5,390	5,390	0.0%	0.3%
Production	**10,557**	**11,305**	**11,333**	**11,525**	**10,903**	**10,900**	**0.0%**	**-1.3%**
East	420	466	485	634	630	583	-7.5%	6.3%
North	3,320	3,470	3,480	3,514	3,578	3,682	2.9%	1.9%
South	1,807	2,016	2,040	2,039	1,510	1,538	1.8%	-9.0%
West	5,010	5,352	5,329	5,338	5,184	5,097	-1.7%	-1.5%
Consumption	**11,077**	**11,714**	**12,723**	**13,773**	**14,419**	**15,222**	**5.6%**	**6.2%**
East	1,608	1,658	1,750	1,969	2,106	2,353	11.7%	10.4%
North	4,494	4,548	4,722	5,074	5,211	5,316	2.0%	4.0%
South	2,118	2,407	2,941	2,921	3,008	3,360	11.7%	4.5%
West	2,857	3,101	3,311	3,808	4,094	4,193	2.4%	8.2%
Gap	**-520**	**-409**	**-1,390**	**-2,248**	**-3,516**	**-4,321**	**22.9%**	**45.9%**
East	-1,187	-1,192	-1,264	-1,335	-1,476	-1,769	19.9%	11.9%
North	-1,174	-1,078	-1,242	-1,560	-1,633	-1,634	0.0%	9.6%
South	-311	-390	-901	-882	-1,497	-1,822	21.7%	26.4%
West	2,152	2,251	2,017	1,530	1,090	903	-17.1%	-23.5%

Compiled by IMACS

Key Players in the Indian Fertilisers Industry

(In random order)

1	**United Phosphorous**
2	**Rallis India**
3	**Tata Chemicals**
4	**Chambal Fertilisers**
5	**RCF**
6	**Advanta India**
7	**Coromandel Fertilizers**
8	**Aries Agro Ltd.**
9	**DCM Shriram**
10	**Gujarat State Fertilisers and Chemicals**
11	**Zuari Industries**
12	**National Fertilisers**

Source: IMaCS analysis

Performance of fertiliser companies during Q2FY2010

During the quarter, almost all the leading companies reported a double-digit fall in the total income. Although, the industry reported a sharp fall in total income, its performance was satisfactory on the profitability front.

	Income (Rs. Cr.)	Sales (Rs. Cr.)	PBDIT/Income (%)		PAT/Income (%)	
			Q2FY2009	Q2FY2010	Q2FY2009	Q2FY2010
Rashtriya Chemicals and Fertilisers	1,803.0	1,792.0	6.5	6.2	3.2	2.7
Coromandel Fertilisers	1,711.4	1,685.2	8.8	19.6	5.3	11.0
Tata Chemicals	1,385.6	1,256.9	10.7	21.6	5.9	12.0
Chambal Fertilisers and Chemicals	978.1	963.8	9.5	19.1	2.7	6.6
Gujarat State Fertilisers and Chemicals	973.4	952.2	15.8	16.6	9.0	7.9
Zuari Industries	850.8	825.5	4.4	11.1	2.4	7.7
National Fertilisers	1,477.0	1,470.7	7.4	8.1	3.2	3.9

During Q2FY2010, 12 companies managed to improve their PBDIT margin due to a huge fall in raw material expenses when compared to the total income. The improved PBDIT margin along with a sharp decline in the interest expenses and tax provisions has enabled the fertiliser companies to raise their PAT margins. Eight companies reported higher PAT margins. During the quarter, three companies – Fertiliser and Chemicals, Travancore (FACT), Khaitan Chemicals & Fertilisers and VBC Industries – turned into loss making units. FACT was the only leading company reporting a growth of 4% in its topline.

Chemicals – Major Segments

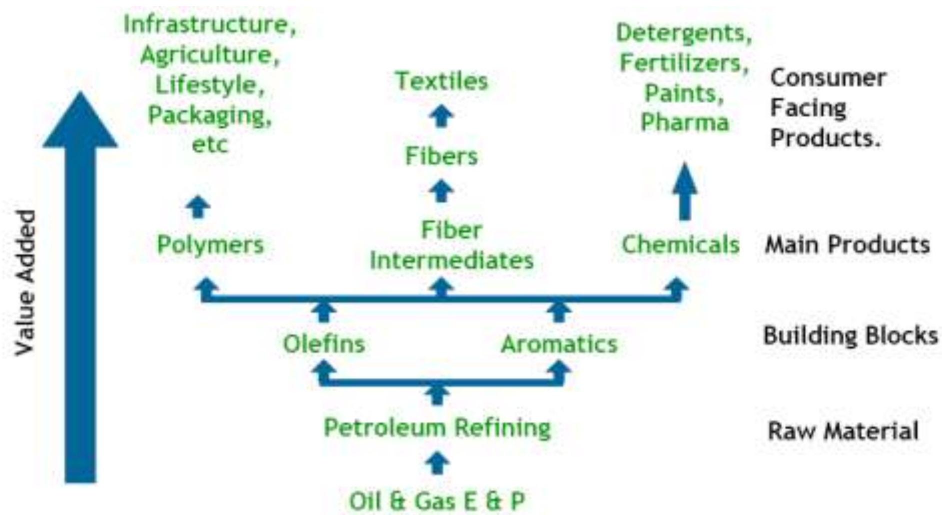
The major sub-segments of the chemical industry are as follows:-

- Petrochemicals
- Organic Chemicals
- Inorganic Chemicals
- Alkali Chemicals
- Pesticides
- Dye and Dyestuff

Petrochemicals

Petrochemicals are chemical products made from raw materials of petroleum (hydrocarbon) origin. The distillation of crude oil yields naphtha, gas oil, natural gas (NG), and petroleum gases which are mainly used as feedstock by the petrochemicals industry. The petrochemical industry mainly comprises of synthetic fibres, polymers, elastomers, synthetic detergents intermediates and performance plastics.

Petrochemical industry structure



Source: Planning commission

Petrochemical products permeate the entire spectrum of daily use items and cover almost every aspect of life, ranging from clothing, housing, construction, furniture, automobiles, household items, toys, agriculture, horticulture, irrigation, packaging to medical appliances etc. There are three naphtha-based and three gas-based cracker complexes in the country with a combined ethylene annual capacity of 2.9 million MT. Besides, there are four aromatic complexes also with a combined Xylenes capacity of 2.9 million MT.

The production of polymers accounted for almost 62% of the total production of major petrochemicals during 2008-09. The domestic capacity of polymers was 5.72 million MT during 2008-09. With 88.5% capacity utilisation, production of polymers during 2008-09 at the level of 5.06 million MT was attained. The domestic production capacity of synthetic fibres was 3.46 million MT during 2008-09. With capacity utilisation of about 73%, production at the level of 2.52 million MT was achieved[2].

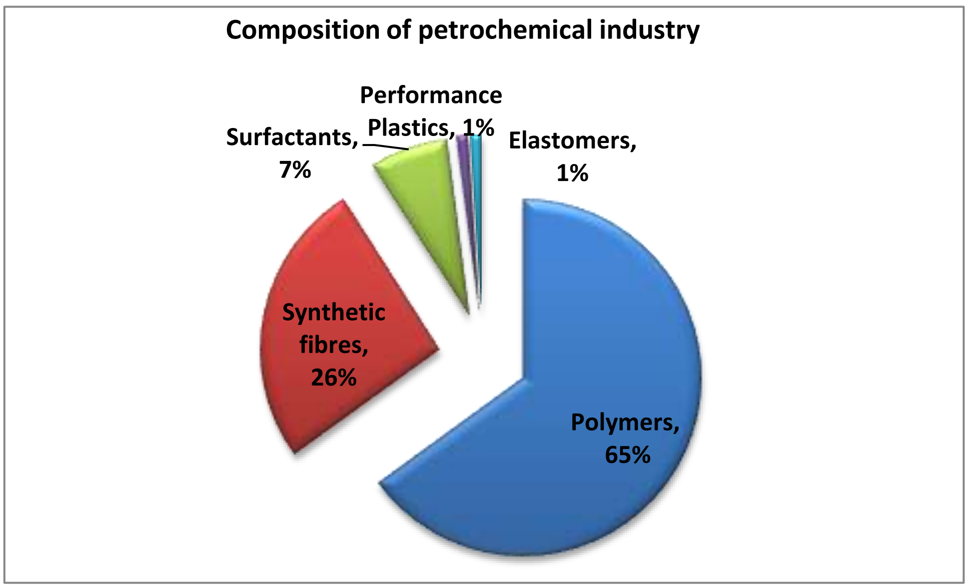
[2] Economic Survey 2008-09

Production of Major Petrochemicals

Year	Synthetic fibres	Polymers	Elasto mers	Synthetic detergent intermediaries	Perform ance plastics	Total major petrochemicals
2005-06	1906	4768	110	555	127	7466
2006-07	2250	5183	101	556	133	8223
2007-08	2524	5304	105	585	157	8675
2008-09	2343	5060	96	552	141	8192

Source: Department of Chemicals & Petrochemicals

While India can boast of having a significant number of steam crackers (both naphtha and NG based), it has only one world class aromatics unit—Reliance Industries Limited (RIL)'s unit at Jamnagar in Gujarat.



Source: Ministry of Chemicals & Fertilisers, IMaCS Analysis

Organic Chemicals

Organic chemicals are a group of petroleum-derivative chemicals (also known as petrochemicals) used as intermediates to produce other chemicals, which, in turn, are used to manufacture a wide variety of end-use products, including construction materials, apparel, adhesives, plastics, and tyres. The majority of the organic chemicals are derived from benzene, a petroleum derivative. The key organic chemicals are acetic acid, methanol, formaldehyde, acetaldehyde, chloromethane, phenol, benzene and its derivatives (that include nitrobenzene, aniline, ortho nitro chlorobenzene or ONCB, para nitro chlorobenzene or PNCB). Although the sector's contribution to the GDP is insignificant, the industry derives its importance from the fact that it caters to a host of end user industries such as paints and dyestuff, fertilisers, textile, pharmaceuticals, insecticides and pesticides, food processing, leather, paper, detergent, explosives, rubber chemicals, cigarette, etc.

Organic Chemicals Industry in India

Cyclicality

There is a moderate amount of cyclicality in the industry (especially in the bulk chemicals business) as reflected by the significant year on year variation in production and consumption of four key organic chemicals—acetic acid, methanol, acetic acid, formaldehyde and phenol.

India's organic chemicals production was estimated at around 1,736 kilotonnes (kt) or 1.74 million tonnes (mt) during FY2008.

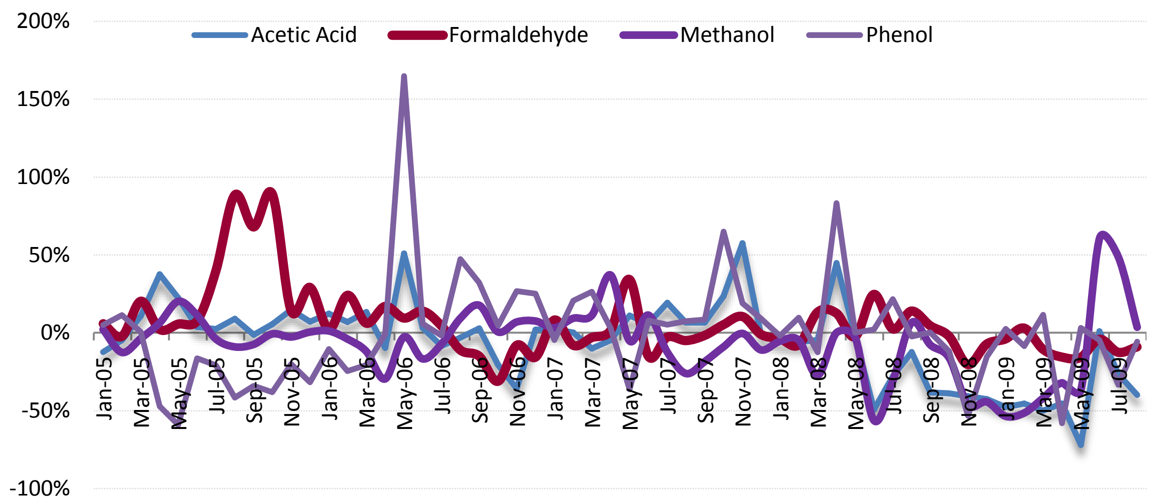
Production of Major Organic Chemicals

'000 MT

	2003	2004	2005	2006	2007	2008
Methanol	362	389	392	387	396	377
Acetic Acid	252	308	288	306	288	373
Formaldehyde	182	199	196	249	235	274
Acataldehyde	126	127	140	159	164	208
Chloromethanes	79	90	92	94	92	99

Source : Ministry of Chemicals and Fertilisers, IMaCS analysis

Monthly Production Growth of Major Organic Chemicals



Compiled by IMACS

Acetic acid is an important chemical reagent and industrial chemical that is used in the production of polyethylene terephthalate mainly used in soft drink bottles; cellulose acetate, mainly for photographic film; and polyvinyl acetate for wood glue, as well as many synthetic fibres and fabrics. In the food industry, acetic acid is used under the food additive code as an acidity regulator. In the form of vinegar, acetic acid solutions (typically 5-18% acetic acid) are used directly as a condiment, and also in the pickling of vegetables and other foodstuffs.

Most formaldehyde is used in the production of polymers and other chemicals. When combined with phenol, urea, or melamine; formaldehyde produces a hard thermoset resin commonly used in permanent adhesives, such as those used in plywood or carpeting. It is used as the wet-strength resin added to sanitary paper products, facial tissue, table napkins, and roll towels. They are also foamed to make insulation, or cast into moulded products. Production of formaldehyde resins accounts for more than half of formaldehyde consumption. Formaldehyde is also used to make numerous other chemicals, used in personal care products such as toothpaste.

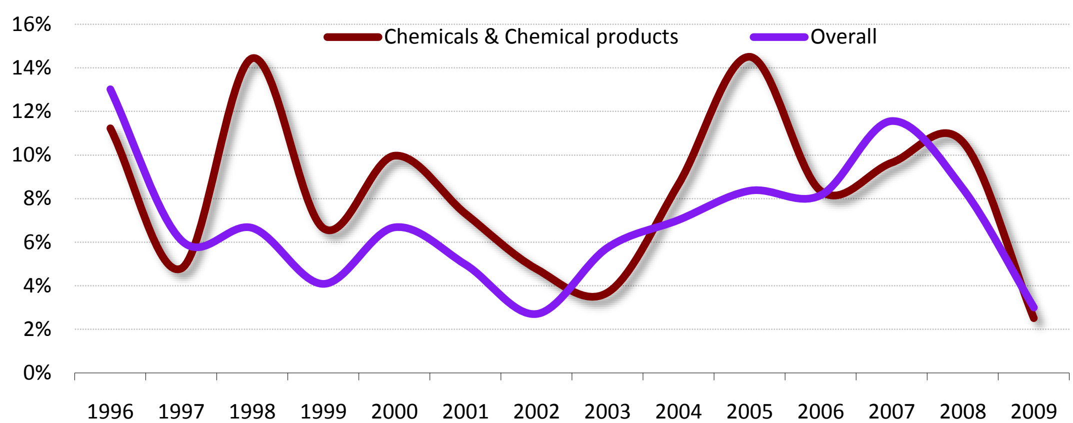
Phenol has antiseptic properties, and is one of the main components of the antiseptic trichlorophenol (TCP). Phenol is also used in the production of drugs (it is the starting material in the industrial production of aspirin), weedkiller, and synthetic resins. It is also used in cosmetic surgery as an exfoliant, to remove layers of dead skin.

Methanol is frequently used as a denaturant additive for ethanol manufactured for industrial uses. It is also used in manufacture of formaldehyde, DMT, methylamines, methylchloride, and methyl methacrylate. It is also used as a solvent for many industries.

Overall the index of industrial production (IIP) for basic chemicals increased only 2.5% during FY2009, compared with 10.6% in FY2008, 9.6% in FY2007, and 8.3% during FY2006.

Growth in IIP—Basic Chemicals & Chemical Products and Overall

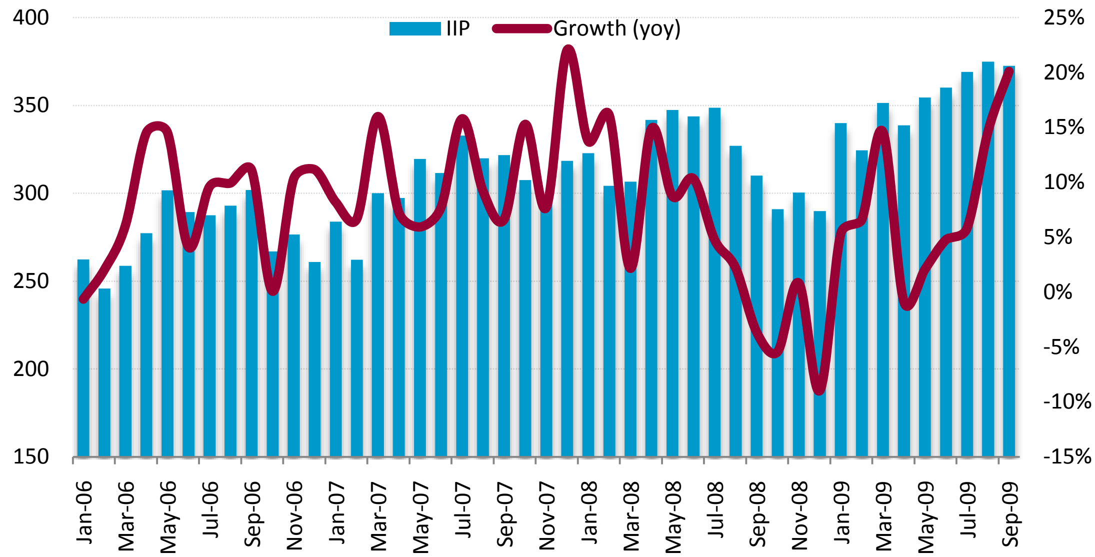
FY



Compiled by IMACS

The IIP for basic chemicals was 345.2 during October 2009 and had achieved a yoy growth of 18.7% between October 2009 and the previous year and a 9.1% growth between April-October 2009.

IIP for Basic Chemicals and Chemical Products



Compiled by IMACS

The prices of the major organic chemicals have also witnessed volatility following fluctuations in demand. Domestic prices of various organic chemicals are dependent upon (i) extent of imports, as pricing of quite a few products being on import parity basis; and (ii) domestic demand supply situation. Prices of some major organic chemicals have witnessed a significant increase during 2005-08. During FY2009, prices of major organic chemicals increased till the first half, but subsequently declined primarily because of slowdown in demand. During Q2FY2010, there is a qoq and yoy increase in prices.

Growth Potential/Outlook

Demand for organic chemicals is closely tied to demand for derivative products, including end products such as nylon, coatings, rubber and plastics. The demand for these, in turn, is linked to established business sectors, such as automobiles and tyres, whose economic viability is linked to gross domestic product (GDP).

Although detailed production figures for FY2009 are not available, the production figures for some major organic chemicals indicate strong production growth in the first half followed by a slowdown subsequently.

- Acetic acid production declined 31.3% to 216,774 tonnes.
- Formaldehyde production increased 0.7% to 242,273 tonnes.
- Methanol production declined 30.3% to 251,586 tonnes.
- Phenol production declined 1.9% to 73,507 tonnes.

India's organic chemicals consumption and production is expected to grow at a moderate rate in the medium-term. Being an intermediate for a host of industries, demand for organic chemicals is related to the demand growth in the end user industries such as PTA, textile, pharmaceuticals, fertilisers, dyes and paints, paper, resins etc. Demand-Supply situation and international prices are likely to affect production and domestic prices. However, there is significant scope for growth in the long term with the per capita chemicals consumption being only 5 kg per annum, much lower than the comparable figures in the developed markets.

Inorganic Chemicals

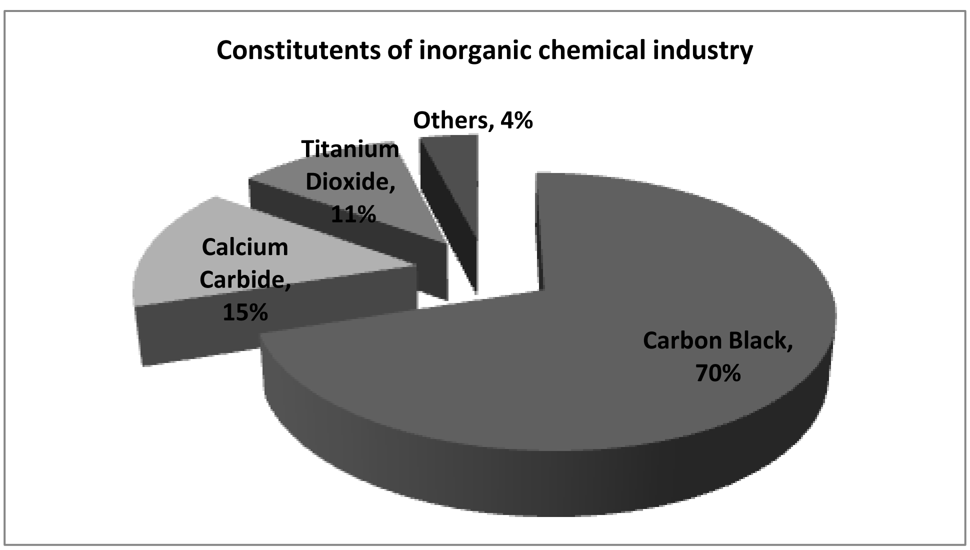
Overview

The key inorganic chemicals are titanium dioxide, carbon black, and calcium carbide. Titanium dioxide is used as white pigment in paints, paper, rubber, and plastics. It is also used in cosmetics, ceramics, enamels, printing inks, etc. Carbon black is used mainly as a reinforcing material in the rubber industry. Other user areas include inks, paints, plastic and paper. Calcium Carbide is used in the production of Acetylene, which in turn is used in the manufacture of poly vinyl chloride (PVC). The production of Calcium Carbide involves power intensive process and there is only one unit engaged in the manufacture of Calcium Carbide. Calcium carbide is also used in carbide lamps, which find use in coal mines.

Other inorganic chemicals include aluminium fluoride, potassium chlorate, red phosphorous, and sodium chlorate. Potassium chlorate is used mainly as oxidising agent in chemical processes. It is also used in explosives, pyrotechnics, matches, textiles, printing, paper, etc. Red phosphorous is used in the manufacture of safety matches and phosphorus compounds.

Although the sector's contribution to the GDP may appear to be insignificant, the industry derives its importance from the fact that it caters to a host of end user industries such as paints and dyestuff, tyres, leather, paper, detergent, explosives, rubber chemicals, cigarette, etc.

India's Inorganic chemicals production was around 690 kilotonnes (kt) or 0.69 million tonnes (mt) during FY2008.

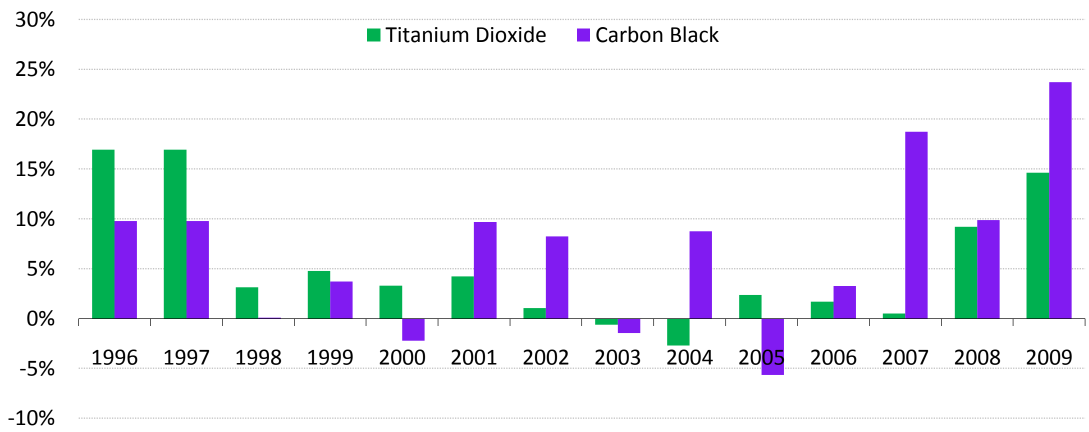


Source: Ministry of Chemicals & Fertilisers, IMaCS Analysis

Cyclicality

There is a moderate amount of cyclicality in the industry (especially in the bulk chemicals business) as reflected by the significant year on year variation in production of key inorganic chemicals—titanium dioxide, carbon black, and calcium carbide. These three chemicals account for around 96% of India's production of inorganic chemicals.

Growth in WPI for Major Inorganic Chemicals



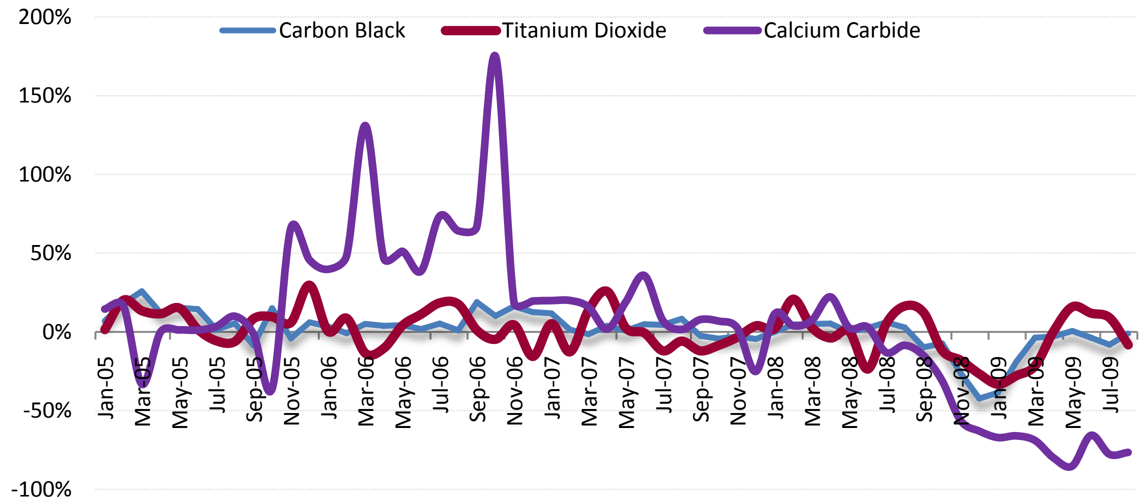
Compiled by IMACS

Growth Potential/Outlook

During FY2009, production continued to grow at a strong rate in the first half, but subsequently declined.

- Titanium dioxide production declined 11.7% (yoy) to 55,063 tonnes.
- Carbon black production declined 10.9% to 382,004 tonnes.
- Calcium carbide production declined 30.4% (yoy) to 67,826 tonnes.

Growth in Production of Major Inorganic Chemicals



Compiled by IMACS

Being an intermediate for a host of industries, demand for inorganic chemicals is related to the demand growth in the end user industries such as paints and tyres.

Carbon black is the largest segment of the inorganic chemicals industry. Production and consumption of carbon black has increased at a high rate in recent years because of increased tyre production. The tyre industry presently consumes around 65% of total production. Carbon black, which accounts for 35% by weight and 16% by the value of raw materials used for making automobile tyres, follows the growth trends in the tyre industry. India's tyre production is estimated to have increased only 1.2% in FY2009, as compared with a 3-year CAGR of 10.5% during FY2006-08. Tyre production growth is expected to be stagnant in the first half of FY2010. Future growth in tyre production is expected to be healthy driven by moderate growth in automotive production, increased replacement demand, and higher exports.

Titanium dioxide has been witnessing fluctuating production trends since March 2009 onwards.

The third major inorganic chemical—calcium carbide—has witnessed reduced production over the last few years. It is used in carbide lamps, in which water drips on carbide and the formed acetylene is ignited. The lamps found extensive use in coal mines, but most have now been replaced by electric lamps. Carbide lamps are still used by some cavers exploring caves and other underground areas.

In recent years, India has significantly boosted its chemicals exports. In the future, because of environmental concerns and stricter regulation, chemicals production is expected to shift from developed to developing countries. This is because the level of occupational and environmental protection in developing countries is lower than in developed countries.

Threat of Imports/Substitutes/Unorganised sector

Imports as a percentage of total consumption for certain bulk chemicals are significantly high. Further, imports as percentage of consumption have increased from 14% in FY2002 to around 23% in FY2008.

As can be seen from the table below, continued reduction in import duty tariffs has resulted in proliferation of imports, especially of titanium dioxide from China. A small measure of protection is available in the form of Anti Dumping (AD) Duty on Anatase Titanium Dioxide imports from China, imposed by the GoI in March 2004. The AD duty is the difference between US$1,227/tonne or t and landed value of imports. Red phosphorous production is capital intensive and higher power costs have resulted in reduced domestic production and higher imports. Imports of select chemicals into the country have affected the pricing power of domestic manufacturers.

Imports of Inorganic Chemicals

tonnes

FY	2003	2004	2005	2006	2007	2008	3-year CAGR
Aluminium Fluoride	679	2,627	1,519	5,134	8,960	13,286	48.3%
Calcium Carbide	66,931	45,720	44,356	45,446	49,026	56,000	14.2%
Carbon Black	18,715	52,042	32,013	54,855	41,323	73,003	76.7%
Potassium Chlorate	280	232	908	49	109	203	85.9%
Sodium Chlorate	5,429	8,450	8,892	10,100	15,255	14,399	-5.6%
Titanium Dioxide	6,653	7,074	11,478	15,126	17,583	19,424	10.5%
Red Phosphorous	173	181	255	172			
Total	**98,860**	**116,326**	**99,421**	**130,882**	**132,257**	**176,315**	**33.3%**

Compiled by IMACS

Alkali Chemicals

The Chloro Alkali industry consists of Soda Ash, Caustic soda and liquid chlorine. Glass manufacturing is the largest application for soda ash. Caustic soda, finds use in various applications, such as, finishing operations in textiles, manufacture of soaps and detergents, control of pH (softening) of water for various applications and general cleansing / bleaching applications. Liquid chlorine is used primarily for various bleaching applications, across paper and pulp, textiles and other industries.

Production of Alkali Chemicals

Chemical	Production (2008) (In '000 MT)
Soda Ash	2024.7
Caustic Soda	2160.3
Chlorine	1914

Source: Alkali Manufacturers' Association of India

Performance of alkali manufacturing companies during Q2FY2010

During Q2FY2010, the alkali industry's aggregate sales fell by over 14%. Total expenses fell by 8% and thus net profit of the industry fell by over 60%, and the margins nearly halved to 5.5%. The fall in revenues was due to the fall in the price of soda ash and caustic soda.

While sales fell by 14%, the raw material costs fell by only 6.5%. The PBDIT of the sector fell by 35%. A sharp increase in the interest and depreciation charges resulted in the fall in profit. Aggregate PAT fell by 62% during this quarter.

The alkali companies registered a dismal financial performance during Q2FY2010. Net sales of seven companies fell by double digits.

Pesticides

The pesticides/agrochemicals industry (PAC) is a moderately important sector of the Indian economy. The PAC industry primarily consists of insecticides, herbicides and fungicides. India is one of the most dynamic generic pesticide manufacturers in the world with more than 60 technical grade pesticide being manufactured indigenously by 125 producers consisting of large and medium scale enterprises (including about 10 multinational companies) and more than 500 pesticide formulators spread over the country. India is the 4th largest producer of agrochemicals after USA, Japan and China. The agrochemicals market in India is Rs. 45,000 million or US$978 million.

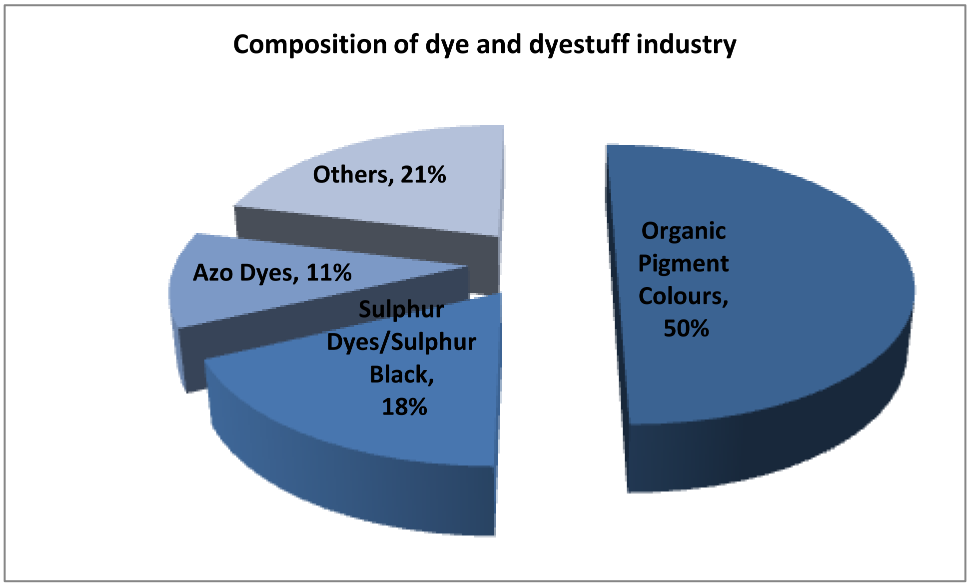
The Indian PAC industry primarily comprises of insecticides, fungicides, and herbicides/weedicides. Insecticides dominate consumption with around 62% of estimated consumption of PAC, followed by herbicides/weedicides (18%), fungicides (15%), and others (4%). Insecticides are used mainly for rice, cotton and vegetables; herbicides for rubber, oil palm, tea, and coffee; and fungicides for tobacco, vegetables, and bananas. Cotton, paddy/rice, vegetables and fruits account for over 80% of the pesticide consumption in the country.

The pesticide consumption in India for every hectare is 0.33 kg. In comparison, the pesticide consumption in France is 3.07 kg a hectare, 4.17 kg in France, 13.1 kg in Japan and over 15 kg in the US, the UK and Canada[3].

Dye and Dyestuff

The Dyestuff sector is one of the important segments of the chemicals industry in India, having forward and backward linkages with a variety of sectors like textiles, leather, paper, plastics, printing inks and foodstuffs. The textile industry accounts for the largest consumption of dyestuffs and thus the consumption of Dyes and Dyestuffs is closely related to the performance of the textile industry. India has emerged as a global supplier of dyestuffs and dye intermediates, particularly for reactives, acid, vat and direct dyes. India accounts for 7% of the world production. Organic pigment colours account for the largest share of dye industry followed by sulphur dyes and Azo dyes.

[3] Business Line dated May 29, 2009



Source: Ministry of Chemicals & Fertilisers, IMaCS Analysis

Exports and Imports

(Value in Rs. lakh)

Commodity	2007-08	2008-09 (Apr-Dec)
Exports		
Inorganic Chemicals	331,671.89	422,691.52
Organic Chemicals	2,886,978.42	2,582,867.77
Fertilisers	10,437.32	14,092.37
Imports		
Inorganic Chemicals	1,139,278.25	1,838,291.26
Organic Chemicals	3,264,193.88	3,017,282.78
Fertilisers	1,845,410.33	4,934,398.66

Source: Directorate General of Foreign Trade

INVESTMENTS AND PROJECTS

FDI Flows in Chemicals (except fertilisers)

In Rs. Billion

Year/Industry	2006-07 (Apr-Mar)	2007-08 (Apr-Mar)	2008-09 (Apr-Mar)	2009-10 (Apr-Oct'09)	Cumulative Inflows (Apr'00-Oct'09)
Chemicals (other than fertilisers)	9.3	9.2	34.3	9.2	104.9

Source: Department of Industrial Policy & Promotion

Investments

The project costs of many of the Investments in chemicals and fertiliser projects in the five southern states of Andhra Pradesh, Karnataka, Kerala, Tamil Nadu and Pondicherry are not available. These investments include existing, planned, projects under execution and those deferred. Ownership wise, it is the private sector firms that own a large portion of 90% of the total investments.

Of these, investments by Indian entities account for about 93% while the balance is from foreign firms. State governments have a small share of investments of about 4%. Although, investment values of over half of the projects are unavailable, going by the number of projects, it is the private sector that dominates total investment in the sector.

About 31% of the investments are in the planning stage. They have been announced by the private sector, state and central government sectors. These projects in the planning stage are located, mainly, in Andhra Pradesh. Karnataka and Tamil Nadu have almost the same number of projects.

Chemicals and Fertiliser Project Investments in Southern India

Number of Projects

	Completed	Deferred	Planning	Stalled	Under Execution	Total
AP	25	12	33	2	20	92
Kerala	5	3	3	-	-	11
TN & Pondy	24	1	14	1	6	46
Karnataka	20	1	11	-	8	40
Total	**74**	**17**	**61**	**3**	**34**	**189**

As can be seen from the above table, about 18% of the investments are under execution. About 39% of the projects have been completed and 32% of the investments are under planning stage. The numbers of deferred and stalled investments are very less at 11%.

As can be seen from the tables below, quite some projects with substantial investments have been deferred for the time being. However, many major expansion projects are still being implemented.

Major Chemicals and Fertilisers Projects in Southern States

Project Name	Promoter	Cost (Rs. Million)	Implementation Stage
Karnataka			

Naphtha Cracker Project	Videocon International Ltd.	4,8000.00	Deferred
Oxygen Gas Project Phase II	Jindal Praxair Oxygen Co. Ltd.	6,000.00	Completed
Distillery (Kerkalmatti) Project	Shree Kedarnath Sugar & Agro Products Ltd.	2,050.00	Under Execution
Distillery (Karnataka) Project	Chamundi Winery & Distilleries Pvt. Ltd.	1,200.00	Under Execution
Liquid Oxygen (Bangalore) Project	Rail Wheel Factory	746.6	Planning
Distillery (Davangere) Project - Expansion	Samsons Distilleries Pvt. Ltd.	550.00	Planning
Oxychlorination (Panambur) Project	Mangalore Chemicals & Fertilizers Ltd.	530.00	Completed
Distillery (Raichur) Project - Expansion	Sovereign Distilleries Ltd.	500.00	Completed
Ethanol (Bagalkot) Project	Karthik Glucons Pvt. Ltd.	450.00	Under Execution
Distillery (Badami) Project	Karthik Agro Industries Pvt. Ltd.	450.00	Under Execution
Distillery (Krishnanagar) Project	Nandi Sahakari Sakkare Karkhane Niyamit	400.00	Planning
Industrial Alcohol (Alaganchi) Project	Bannari Amman Sugars Ltd.	306.00	Completed
Extra Neutral Alcohol (Bagalkot) Project	Jamkhandi Sugars Ltd.	300.00	Planning
Distillery (Duggavathi) Project	Shamanur Sugars Ltd.	300.00	Planning
Ethanol (Gokak) Project	Satish Sugars Ltd.	243.5	Completed
Distillery (Madbhavi) Project - Expansion	Athani Farmers' Sugar Factory Ltd.	240.00	Partially Completed

Ethanol (Koppa) Project - Expansion	SCM Sugars Ltd.	220.00	Planning
Extra Neutral Alcohol (Koguoor)	Dollex Industries Ltd.	210.00	Completed
Chemicals (Bidar) Project - Expansion	Vivimed Labs Ltd.	20.00	Under Execution
Ethanol (Gulbarga) Project - Expansion	Dollex Industries Ltd.	200.00	Completed
Sulphuric Acid (Panambur) Project	Mangalore Chemicals & Fertilizers Ltd.	120.00	Completed
Aroma Chemical Plant (Tumkur)	Organica Aromatics (Bangalore) Pvt. Ltd.	50.00	Completed
Chemicals (Thandya) Project	SVP Industries	45.0	Planning
Colour Oil (Motebennur) Project	Kancor Colours Ltd.	15.0	Completed
Process Treatment Chemicals (Hoskote) Project	Hercules Inc.	14.1	Completed

Source: Compiled by IMaCS

Project Name	Promoter	Cost (Rs. Million)	Implementation Stage
Tamil Nadu			
Arochem Project	Spic Petrochemicals Ltd.	32,300.00	Stalled
Caustic Soda (Mettur) Project	Chemplast Sanmar Ltd.	3,000.00	Completed
Neutral Alcohol (Cuddalore) Project	Elite Distilleries Pvt. Ltd.	1,250.00	Planning

Carbon Black (Gummidipoondi) Project - Expansion	Aditya Birla Nuvo Ltd.	1,050.00	Completed
Aluminium Fluoride (Sivaganga) Project	Sterlite Industries (India) Ltd.	1,000.00	Planning
Distillery (Sathamangalam) Project	Kothari Sugars & Chemicals Ltd.	750.00	Planning
Ethanol (Kalayanallur) Project	Dharani Sugars & Chemicals Ltd.	710.00	Under Execution
Rectified Spirit (Erode) Project	Ponni Sugars (Erode) Ltd.	700.00	Planning
Carbon Black Project - Expansion	Aditya Birla Nuvo Ltd.	600.00	Completed
Hydrogen Gas Project	Praxair India Pvt. Ltd.	600.00	Completed
Fatty Acids (Chittarkottai) Project	EID-Parry (India) Ltd.	500.00	Completed
Distillery (Cheyyar) Project	Cheyyar Co-operative Sugar Mills Ltd.	360.00	Planning
Distillery (Chidambaram) Project	M R Krishnamurty Co-operative Sugar Mills Ltd.	360.00	Planning
Oxychlorination Project	Chemplast Sanmar Ltd.	230.00	Completed
Thermal Spray Coatings (Palladam) Project	Praxair India Pvt. Ltd.	150.00	Completed

Leather Chemicals Project	Stahl India Pvt. Ltd.	150.00	Completed
Stable Bleaching Powder (Tamil Nadu) Project	DCW Ltd.	110.00	Deferred
Maleic Anhydride Project	Thirumalai Chemicals Ltd.	100.00	Completed
Carbon Dioxide (Mambakkam) Project	Sicgil Industrial Gases Ltd.	70.00	Under Execution
Enzyme Project	Esvin Bio-Systems Ltd.	60.00	Completed
Emulsion Explosives (Christianpet) Project	Tamil Nadu Industrial Explosives Ltd.	51.70	Completed
Helium Extraction (Kuthalam) Project	Oil & Natural Gas Corpn. Ltd.	50.00	Completed
Aromatic Chemical Project	Emkay Aromatics Ltd.	49.3	Completed
L-Cystine Project	Protchem Industries (India) Ltd.	45.0	Completed
Bio-methanation Plant Project	Tamil Nadu Newsprint & Papers Ltd.	40.00	Completed

Source: Compiled by IMaCS

Project Name	Promoter	Cost (Rs. Million)	Implementation Stage
Pondicherry			

Polybutene Project - Debottlenecking	Kothari Sugars & Chemicals Ltd.	Not Available	Completed
Caustic Soda (Karaikal) Project - Expansion	Chemplast Sanmar Ltd.	Not Available	Completed
Organics Chemicals (Kalapet) Project - Expansion	Chemfab Alkalis Ltd.	Not Available	Under Execution
Chlorates & Perchlorates (Melakasakudi) Project - Expansion	Mepco Industries Ltd.	Not Available	Under Execution

Source: Compiled by IMaCS

Project Name	Promoter	Cost (Rs. Million)	Implementation Stage
Andhra Pradesh			
Carbon Black (Visakhapatnam) Project	Continental Carbon India Ltd.	5,000.00	Planning
Caustic Soda (Chowdavaram) Project	Durgasri Alkalies Pvt. Ltd.	5,000.00	Planning
Oxo Alcohol (Visakhapatnam) Project - Expansion	Andhra Petrochemicals Ltd.	3,000.00	Under Execution
Chemicals (Visakhapatnam) Project	Kanoria Chemicals & Industries Ltd.	2,000.00	Under Execution
Ethanol (Gandepalli) Project	Sentini Bioproducts Pvt. Ltd.	1,300.00	Completed
Ethanol (Nellore) Project	Rusni Distilleries Pvt. Ltd.	1,200.00	Planning
Ethanol (Andhra Pradesh) Project - Expansion	Sentini Bioproducts Pvt. Ltd.	1,000.00	Completed
Chemical Complex (Visakhapatnam)	Vivimed Labs Ltd.	1,000.00	Planning
Sulphur Compounds (Saggonda) Project	Bhagyanagar Chlorides Pvt. Ltd.	1,000.00	Under Execution
R&D Centre (Hyderabad)	E.I.DuPont India Pvt. Ltd.	1,000.00	Completed
Methyl Chloride (Kurnool) Project	Sree Rayalaseema Alkalies & Allied Chemicals Ltd.	950.00	Planning
Carbon Dioxide (Kakinada) Project	Nagarjuna Fertilizers & Chemicals Ltd.	900.00	Completed
Extra Neutral Alcohol (Jaggaiahpet) Project	Laxmi & Company	800.00	Deferred
Ethyl Alcohol (Krishna) Project	SKC Projects	800.00	Deferred
Extra Neutral Alcohol (Nandiyal) Project	S P Agro Industries Ltd.	800.00	Under Execution
Extra Neutral Alcohol (Vijayawada) Project	Bharati Industries	800.00	Abandoned
Distillery (Nellore) Project - Expansion	Empee Sugars & Chemicals Ltd.	760.00	Completed
Distillery (Nandikandi) Project - Expansion	Gayatri Starchkem Ltd.	700.00	Planning

Extra Neutral Alcohol (Sankarampet) Project	Alcrain Chemicals Pvt. Ltd.	580.00	Planning
Distillery (Medak) Project - Expansion	Rusni Distilleries Pvt. Ltd.	550.00	Planning
Distillery (East Godavari) Project	Sri Vishnu Biotech Ltd.	540.00	Deferred
Distillery (Avapadu) Project	Auroma Biotech Pvt.Ltd.	525.7	Under Execution
Ethanol (Srikakulam) Project - Expansion	GMR Industries Ltd.	500.00	Planning
Chemicals (Achuthapuram) Project	Nagarjuna Agrichem Ltd.	500.00	Under Execution
Distillery (Annadevarapeta) Project	Bio Ethanol India Ltd.	500.00	Under Execution
Alcohols (Parlapalli) Project	Haritha Bio Products India Pvt. Ltd.	500.00	Planning
Extra Neutral Alcohol (Nalgonda) Project	Bossa Distillery Pvt. Ltd.	500.00	Planning
Ferric Oxide Project	NMDC Ltd.	500.00	Completed
Ethyl Alcohol (Ranga Reddy) Project	Empee Distilleries Ltd.	400.00	Under Execution
Distillery (G Kothapalli) Project	Vasista Fermentations Pvt. Ltd.	390.00	Deferred
Industrial Gases (Gudur) Project	Goyal MG Gases Pvt. Ltd.	350.00	Planning
Distillery (Krishna) Project - Expansion	KCP Sugar & Industries Corpn. Ltd.	350.00	Completed
Sulphuric Acid Project	Godavari Fertilisers & Chemicals Ltd.	340.00	Deferred
Chemicals (Kovvur) Project - Expansion	Andhra Sugars Ltd.	320.00	Planning
Sulphuric Acid (Biccavolu) Project	K P R Fertilisers Pvt. Ltd.	300.00	Completed
Chemicals (Visakhapatnam) Project	SNF India Pvt. Ltd.	300.00	Planning
Distillery (Kamareddy) Project	Gayatri Sugars Ltd.	260.00	Completed
Organic Chemicals (Medak) Project - Expansion	Virchow Petrochemical Pvt. Ltd.	250.00	Under Execution

Project Name	Promoter	Cost (Rs. Million)	Implementation Stage
Kerala			
Petrochemical Complex (Kochi) Project	GAIL (India) Ltd.	70,000.00	Deferred
Carbon Black (Karimugol) Project - Expansion	Philips Carbon Black Ltd.	1,500.00	Deferred
Ethyl Alcohol (Palakkad) Project	Empee Distilleries Ltd.	400.00	Planning
Caustic Soda (Udyogmandal) Project	Travancore-Cochin Chemicals Ltd.	220.00	Completed
Garbage Treatment Plant (Vilappinsala)	Government of Kerala	90.00	Completed
Garbage Treatment Plant	Excel Industries Ltd.	90.00	Completed

Source: Compiled by IMaCS

Company Developments

- Construction chemicals industry to get together to lobby government and set standards.
- Tata Chemicals unveils unique water purifier for masses.
- Tata Chemicals has planned an expansion of its ammonia-urea plant at Babrala in Uttar Pradesh. The plant is to be expanded by installing an additional line at Babrala.
- Indian companies keen to tie-up LNG and participate in E&P in Africa.
- BASF India Limited has announced the sale of the company's Dadra site to Sonachi Industries Limited for a consideration of Rs. 51.5 million.

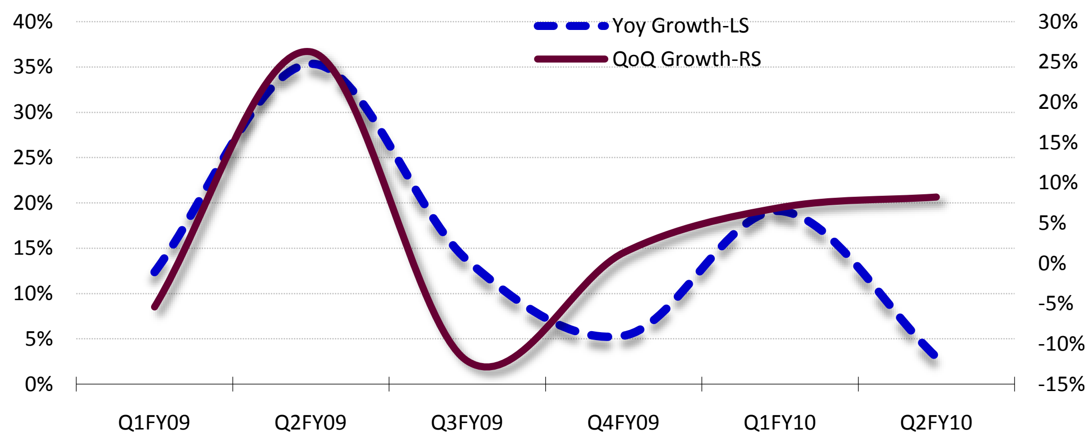
REVIEW OF FINANCIAL PERFORMANCE

The financial performance chemicals and fertilisers industry in India have suffered during FY2009, especially in the last two quarters, despite a healthy increase in operating income. The main reason for the poor performance can be associated with the increased operating costs and increased interest burden. The situation has however improved a little in Q2FY2010.

Chemicals Industry in Southern Region

During Q2FY2010, 18 **listed companies in the chemicals sector with registered offices in the Southern Region** reported a 3% increase in operating income (OI) to Rs. 4.9 billion. OI (yoy) growth was healthy at 12.4% in Q1FY2009, which increased drastically to 34.2% in Q2FY2009, but reduced to 13.7% in Q3FY2009 and further reduced to 5.4% in Q4FY2009 as signs of recession became evident. However the operating income has displayed a 3% increase during Q2FY2010. On a qoq basis however, OI growth has increased by 8.2% during Q2FY2010, from negative 5.4% in Q1FY2009 and negative 12.1% in Q3FY2009, but has improved to 6.9% increase in Q1FY2010. Even on a yoy basis, OI growth seems to have followed a decline and keep reducing every quarter after peaking in Q2FY2009, but has picked up pace again in Q1FY2010, reducing again this quarter.

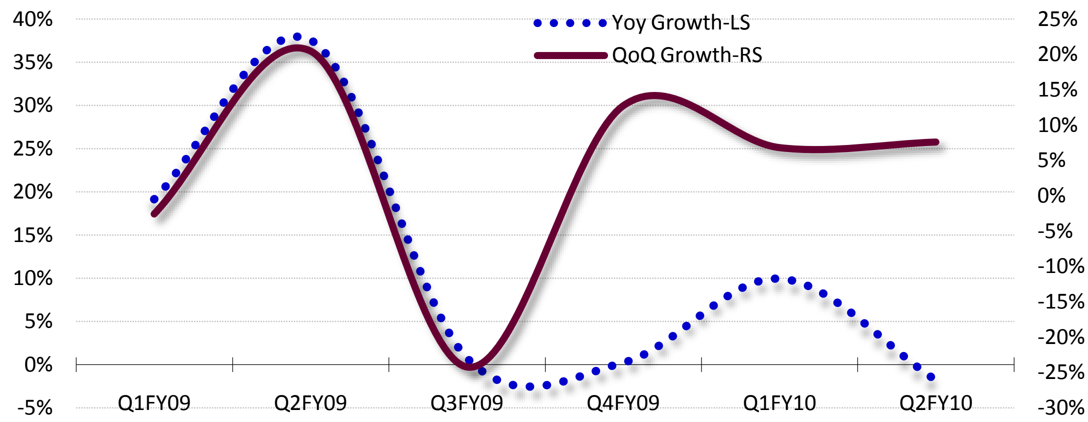
Trends in Operating Income Growth—Southern Region



Source: Compiled by IMaCS

During Q2FY2010 raw material costs have increased by 7.6% qoq.

Trends in Raw Material Costs—Southern Region



Source: Compiled by IMaCS

The following tables provide a quarterly performance comparison of listed chemicals companies in the Southern region.

Financial Performance—Southern Region

Percent of OI

	FY2008				FY2009				FY2010	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Net Sales/OI	**100**	**100**	**100**	**100**	**100**	**100.0**	**100**	**100**	**100**	**100**
Raw Material Cost	60.6	60.4	60.2	62.2	64.3	61.9	53.4	59.4	59.4	59.0
Employee Costs	4.8	5.1	5.0	4.5	5.0	4.5	5.5	5.8	5.1	5.1
Power & Fuel Costs	4.3	3.9	4.2	3.9	3.6	3.9	4.6	4.4	3.9	3.5
Other Operating Costs	15.6	15.2	16.1	18.7	13.9	14.6	25.1	19.5	16.7	16.6
Cost of Sales	**85.4**	**84.6**	**85.4**	**89.3**	**86.8**	**84.9**	**88.6**	**89.1**	**85.0**	**84.2**
OPBDIT	**14.6**	**15.4**	**14.6**	**10.7**	**13.2**	**15.1**	**11.4**	**10.9**	**15.0**	**15.8**
Interest	2.9	2.5	2.8	2.8	3.4	3.5	4.8	3.1	3.7	3.8
Depreciation	3.8	3.7	3.8	3.9	3.8	3.0	4.0	3.9	3.8	3.6
OPBT	**8**	**9.2**	**8**	**4**	**6.0**	**8.6**	**2.6**	**3.9**	**7.5**	**8.5**
Other Income	3	14.5	1.4	1.5	1.1	1.4	2.0	2.0	0.7	0.5
PBT	**11**	**23.7**	**9.4**	**5.5**	**7.1**	**9.9**	**4.6**	**5.9**	**8.2**	**9.0**
Tax	2.8	3.3	2.5	2.2	1.8	3.3	2.1	2.7	2.4	3.3
PAT	**8.2**	**20.4**	**6.9**	**3.3**	**5.2**	**6.7**	**2.4**	**3.2**	**5.8**	**5.7**

Source: Compiled by IMaCS

Financial Performance—Southern Region

Rs. million

	FY2008				FY2009				FY2010	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Net Sales/OI	**3,393**	**3,557**	**3,688**	**4,030**	**3,813**	**4,772**	**4,193**	**4,248**	**4,541**	**4,914**
Raw Material Cost	2,058	2,148	2,222	2,517	2,452	2,954	2,239	2,524	2,696	2,901
Employee Costs	163	180	183	181	191	214	229	248	230	249
Power & Fuel Costs	147	139	154	158	135	185	195	185	179	173
Other Operating Costs	529	541	592	763	532	699	1,054	830	757	814
Cost of Sales	**2,898**	**3,008**	**3,152**	**3,619**	**3,310**	**4,052**	**3,716**	**3,786**	**3,862**	**4,137**
OPBDIT	**496**	**549**	**537**	**411**	**503**	**721**	**476**	**461**	**679**	**776**
Interest	97	90	103	117	129	168	201	130	166	186
Depreciation	129	133	139	157	146	145	168	165	171	175
OPBT	**270**	**327**	**295**	**137**	**228**	**408**	**107**	**167**	**342**	**416**
Other Income	103	515	52	61	41	66	85	85	30	25
PBT	**373**	**842**	**347**	**198**	**269**	**475**	**192**	**251**	**372**	**441**
Tax	94	116	93	91	70	157	89	115	110	163
PAT	**280**	**726**	**254**	**108**	**200**	**317**	**102**	**136**	**263**	**278**

Source: Compiled by IMaCS

As can be seen from the table above, the sharp increase in operating costs resulted in a steep decline in operating margins during FY2009. But there seems to be some recovery since Q4FY2009, after which in Q1FY2010 and Q2FY2010, the operating margins are higher than what they were during the same quarter in the previous two fiscals.

Financial Performance—Southern Region

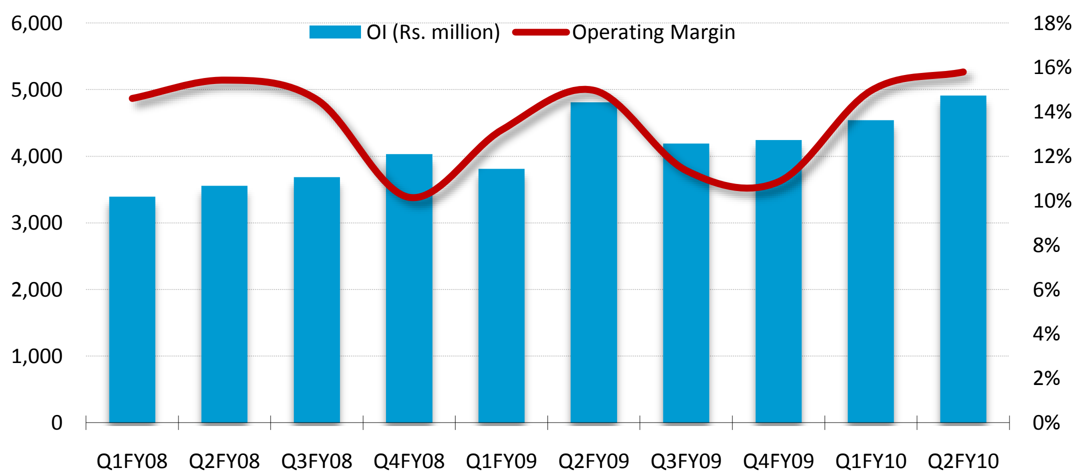
Rs. Million, except percentages

	Rs. Million		Change (%)	% of OI	
Q2FY	**2010**	**2009**		**2010**	**2009**
Net Sales/OI	**4,914**	**4,772**	**3.0**	**100.0**	**100.0**
Raw Material Cost	2,901	2,954	-1.8	59.0	61.9
Employee Costs	249	214	16.4	5.1	4.5
Power & Fuel	173	185	-6.2	3.5	3.9
Other Operating Costs	814	699	16.5	16.6	14.6
Cost of Sales	**4,137**	**4,052**	**2.1**	**84.2**	**84.9**
OPBDIT	**776**	**721**	**7.7**	**15.8**	**15.1**
Interest	186	168	10.7	3.8	3.5
Depreciation	175	145	20.8	3.6	3.0
OPBT	**416**	**408**	**1.8**	**8.5**	**8.6**
Other Income	25	66	-62.7	0.5	1.4
PBT	**441**	**475**	**-7.2**	**9.0**	**9.9**
Tax	163	157	3.4	3.3	3.3
PAT	**278**	**317**	**-12.4**	**5.7**	**6.7**

Source: Compiled by IMaCS

The operating costs have increased in Q2FY2010 when compared to the previous quarter, each of the individual costs increasing over 20% year on year, but still the operating margins are higher in Q2FY2010 due to increase in sales.

Trends in Operating Income and Operating Margins (Southern India)



Source: Compiled by IMaCS

On a quarterly basis in southern India, operating margins declined from 15% in Q2FY2009 to 11.4% in Q3FY2009, and to 10.9% in Q4FY2009. But they have improved to 15% in Q1FY2010 and 15.8% during Q2FY2010.

Chemicals Industry in India

During FY2009, the all India chemicals sector net sales increased by 12.2% compared to the previous year but in Q2FY2010 they reduced by 13.2% yoy. Although there was a decline in the operating expenses and a 23% rise in the interest cost led to an overall decline in the profit after tax by 23.4% in Q1FY2010.

Financial Performance of the Chemical Sector (All India)

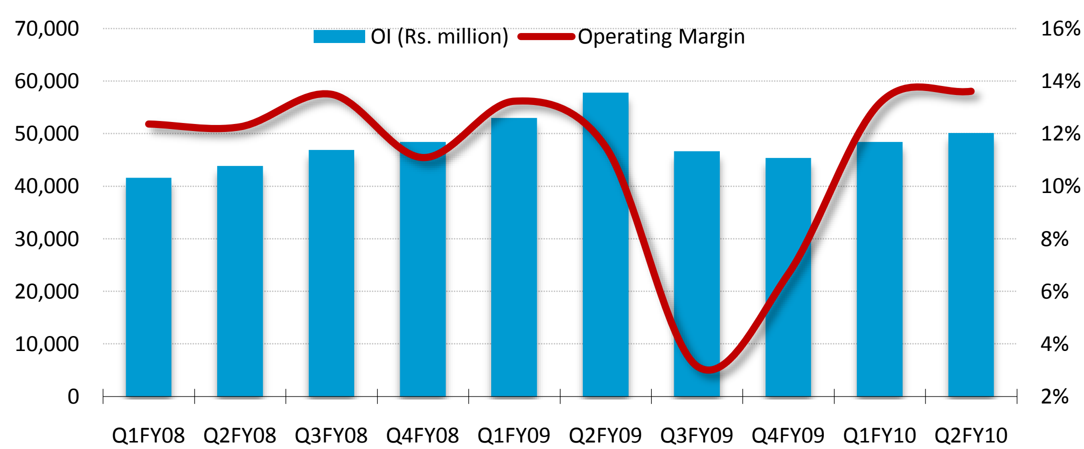
Rs. Million, except percentages

	Rs. Million		Change (%)	% of OI	
Q2FY	**2010**	**2009**		**2010**	**2009**
Net Sales/OI	**50,142**	**57,788**	**-13.2**	**100.0**	**100.0**
Raw Material Cost	31,151	38,673	-19.4	62.1	66.9
Employee Costs	2,826	2,690	5.0	5.6	4.7
Power & Fuel	994	1,474	-32.6	2.0	2.5
Other Operating Costs	8,345	8,304	0.5	16.6	14.4
Cost of Sales	**43,316**	**51,140**	**-15.3**	**86.4**	**88.5**
OPBDIT	**6,827**	**6,649**	**2.7**	**13.6**	**11.5**
Interest	1,850	1,742	6.2	3.7	3.0
Depreciation	1,801	1,674	7.6	3.6	2.9
OPBT	**3,177**	**3,233**	**-1.8**	**6.3**	**5.6**
Other Income	1,685	715	135.7	3.4	1.2
PBT	**4,861**	**3,948**	**23.1**	**9.7**	**6.8**
Tax	1,235	1,420	-13.1	2.5	2.5
PAT	**3,626**	**2,528**	**43.5**	**7.2**	**4.4**

Source: Compiled by IMaCS

On a quarterly basis in all India, operating margins declined from 13.2% in Q1FY2009 to 11.5% in Q2FY2009, and to 3.2% in Q3FY2009 but recovered to 6.7% in Q4FY2009. They further recovered to 13.2% in Q1FY2010 and 13.6% in Q2FY2010.

Trends in Operating Income and Operating Margins (All India)

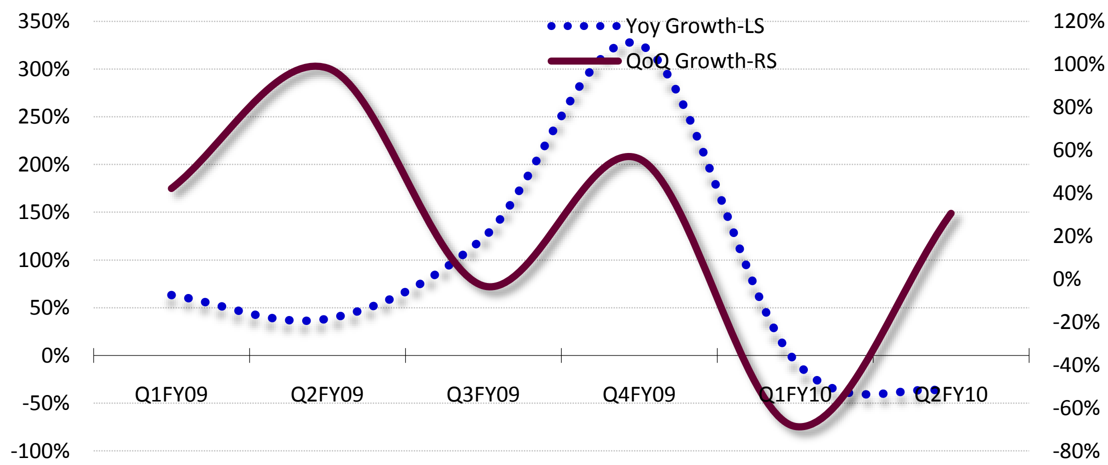


Source: Compiled by IMaCS

Fertilisers Industry in Southern Region

During Q2FY2010, 7 **listed fertiliser companies with registered offices in the Southern Region** reported a 5.8% decline in operating income (OI) to Rs. 38.6 billion. OI (yoy) growth registered a negative growth of 37.9% during Q2FY2010, from a negative growth of 5.8% during the previous quarter and from a healthy growth of 63.4% in Q1FY2009 and 38.4% in Q2FY2009, it increased to 123.1% in Q3FY2009, but reduced to 32.6% in Q4FY2009.

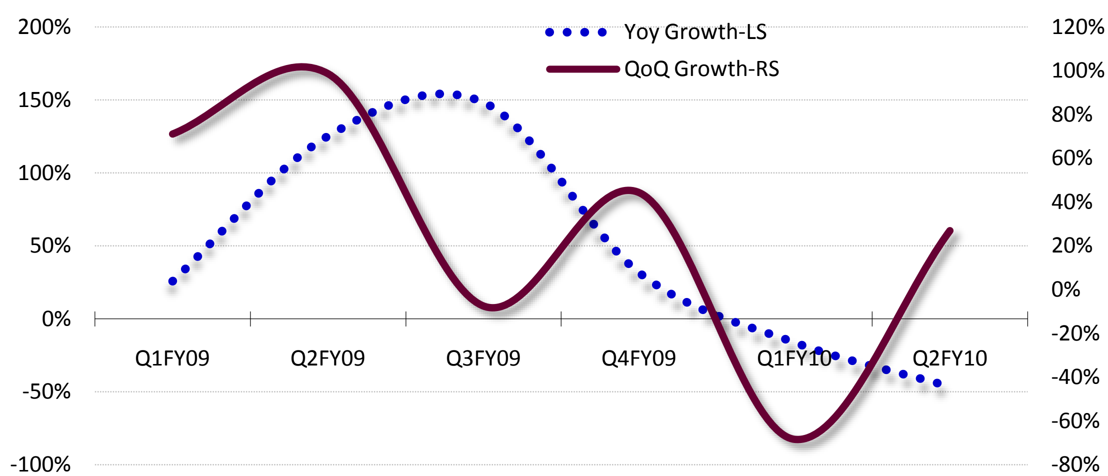
Trends in Operating Income Growth—Southern Region



Source: Compiled by IMaCS

Although OI fell in Q2FY2010, the raw material costs increased by 30.6% qoq in Q2FY2010 and decreased by 37.9% yoy in Q2FY2010, which had declined by 16.2% in FY2009 after sharp increases of 125%, 148% and 32% yoy in Q2FY2009, Q3FY2009 and in Q4FY2009, respectively.

Trends in Raw Material Costs—Southern Region



Source: Compiled by IMaCS

The following tables provide a quarterly performance comparison of listed fertiliser companies in the Southern region.

Financial Performance—Southern Region

Rs. million

	FY2008				FY2009				FY2010	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Net Sales/OI	**19,215**	**44,949**	**27,030**	**22,085**	**31,401**	**62,252**	**60,315**	**94,084**	**29,576**	**38,632**
Raw Material Cost	19,612	21,642	18,231	14,406	24,640	48,937	45,259	65,325	20,644	26,200
Employee Costs	1,049	1,142	1,063	1,130	1,110	1,155	1,250	4,174	1,282	1,389
Power & Fuel Costs	2,419	2,429	3,022	2,990	3,044	4,674	3,447	8,357	2,544	3,297
Other Operating Costs	-5,493	16,589	2,515	4,353	-182	2,815	10,187	13,732	3,571	3,227
Cost of Sales	**17,587**	**41,803**	**24,831**	**22,879**	**28,612**	**57,581**	**60,143**	**91,589**	**28,040**	**34,112**
OPBDIT	**1,627**	**3,147**	**2,199**	**-795**	**2,789**	**4,671**	**172**	**2,495**	**1,536**	**4,519**
Interest	1,751	1,615	1,468	2,013	1,840	1,851	1,719	3,053	1,245	1,313
Depreciation	912	929	925	873	906	907	915	2,807	924	956
OPBT	**-1,036**	**603**	**-194**	**-3,681**	**44**	**1,913**	**-2,462**	**-3,365**	**-633**	**2,251**
Other Income	202	455	216	2,310	1,810	477	1,041	3,406	380	400
PBT	**-834**	**1,058**	**22**	**-1,371**	**1,854**	**2,390**	**-1,421**	**42**	**-254**	**2,650**
Tax	321	938	530	164	1,191	1,023	907	1,925	380	1,191
PAT	**-1,155**	**120**	**-509**	**-1,535**	**663**	**1,367**	**-2,328**	**-1,883**	**-633**	**1,460**

Source: Compiled by IMaCS

As can be seen from the table above, improvement in operating margins during Q2FY2010 is primarily attributable to the increase in sales. The overall profitability of fertiliser companies in the southern region have declined by 195.5% in Q1FY2010 compared to Q1FY2009.

Financial Performance—Southern Region

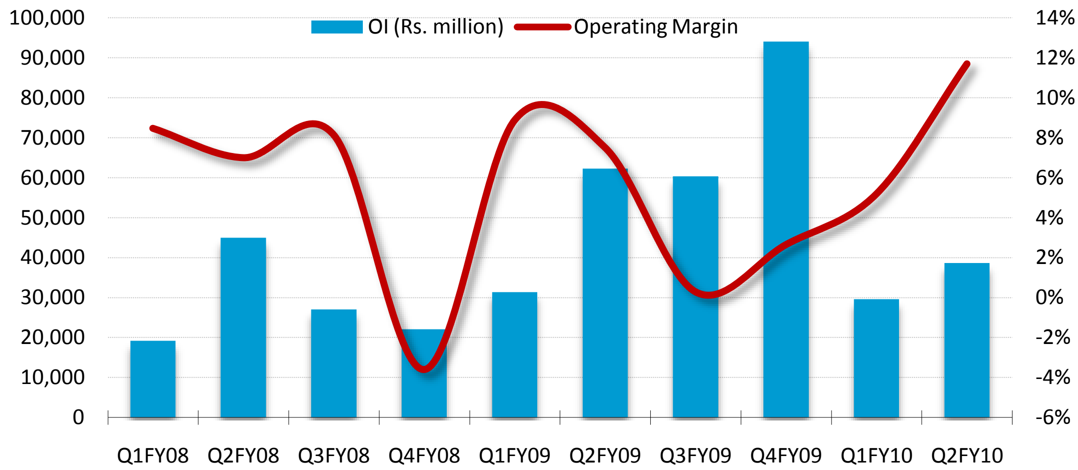
Rs. Million, except percentages

	Rs. Million		Change (%)	% of OI	
Q2FY	**2010**	**2009**		**2010**	**2009**
Net Sales/OI	**38,632**	**62,252**	**-37.9**	**100.0**	**100.0**
Raw Material Cost	26,200	48,937	-46.5	67.8	78.6
Employee Costs	1,389	1,155	20.3	3.6	1.9
Power & Fuel	3,297	4,674	-29.5	8.5	7.5
Other Operating Costs	3,227	2,815	14.6	8.4	4.5
Cost of Sales	**34,112**	**57,581**	**-40.8**	**88.3**	**92.5**
OPBDIT	**4,519**	**4,671**	**-3.2**	**11.7**	**7.5**
Interest	1,313	1,851	-29.1	3.4	3.0
Depreciation	956	907	5.4	2.5	1.5
OPBT	**2,251**	**1,913**	**17.7**	**5.8**	**3.1**
Other Income	400	477	-16.2	1.0	0.8
PBT	**2,650**	**2,390**	**10.9**	**6.9**	**3.8**
Tax	1,191	1,023	16.4	3.1	1.6
PAT	**1,460**	**1,367**	**6.8**	**3.8**	**2.2**

Source: Compiled by IMaCS

On a quarterly basis in southern India, operating margins declined from 8.9% in Q1FY2009 to 7.4% in Q2FY2009, and to 0.3% in Q3FY2009. They became (-) 6.1% in Q4FY2009 but have improved to 5.2% in Q1FY2010 and 11.7% in Q2FY2010.

Trends in Operating Income and Operating Margins (Southern India)



Source: Compiled by IMaCS

Fertilisers Industry in India

During Q2FY2010, the all India fertiliser sector net sales declined by 41.8% compared to the previous year. Although there was a decline in operating costs, the operating profit declined by 23.0% in Q2FY2010. The overall decline in net profits was 18.5% in Q2FY2010 compared to Q2FY2009.

Financial Performance of the Fertilisers Sector (All India)

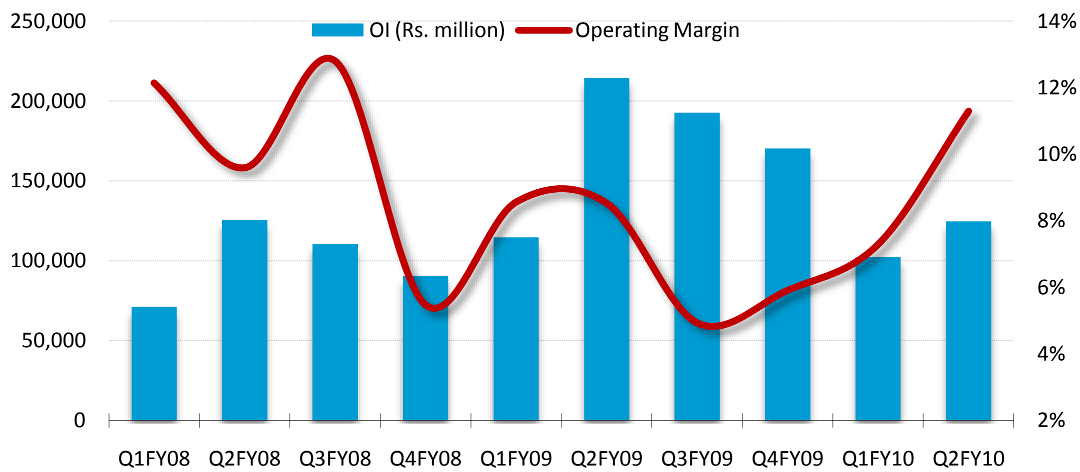
Rs. Million, except percentages

	Rs. Million		Change (%)	% of OI	
Q2FY	**2010**	**2009**		**2010**	**2009**
Net Sales/OI	**124,702**	**214,448**	**-41.8**	**100.0**	**100.0**
Raw Material Cost	80,419	149,121	-46.1	64.5	69.5
Employee Costs	5,418	5,400	0.3	4.3	2.5
Power & Fuel	10,557	15,692	-32.7	8.5	7.3
Other Operating Costs	14,220	25,945	-45.2	11.4	12.1
Cost of Sales	**110,615**	**196,158**	**-43.6**	**88.7**	**91.5**
OPBDIT	**14,087**	**18,290**	**-23.0**	**11.3**	**8.5**
Interest	2,493	3,674	-32.1	2.0	1.7
Depreciation	3,506	3,286	6.7	2.8	1.5
OPBT	**8,087**	**11,331**	**-28.6**	**6.5**	**5.3**
Other Income	2,577	1,776	45.1	2.1	0.8
PBT	**10,664**	**13,107**	**-18.6**	**8.6**	**6.1**
Tax	3,667	4,520	-18.9	2.9	2.1
PAT	**6,997**	**8,588**	**-18.5**	**5.6**	**4.0**

Source: Compiled by IMaCS

On a quarterly basis in all India, operating margins declined from 12.8% in Q3FY2008 to 4.9% in Q3FY2009 but recovered marginally to 5.9% in Q4FY2009. It further recovered to 7.3% in Q1FY2010 and 11.3% in Q2FY2010.

Trends in Operating Income and Operating Margins (All India)



Source: Compiled by IMaCS

PRIMARY SURVEY CONCLUSIONS

Following are the conclusions from the primary survey of chemicals and fertilisers companies with emphasis on the situation during Q2FY2010: -

- The overall demand situation has begun to improve and the demand has improved by 20% in the southern region.
- There has been a negative impact on factors such as access to bank credit (hurdles in getting them), government taxes and regulations (have become stringent) and shortage of both skilled and unskilled labour.
- The capacity utilisation and operating profit margins have improved when compared to the preceding two quarters.
- The wage rate during this quarter has increased compared to the last two quarters.
- Quantitative analysis
    - Expenditure pattern over the last three quarters (Q4FY2009, Q1FY2010, and Q2FY2010):- Input costs have reduced by over 25% during this quarter. Employee costs have increased by 10%, selling and administration expenses have increased by 3%, and total costs have come down by 7%. The operating profit has increased by 15% and the profit has increased by 10%.

SHORT-TERM OUTLOOK

A fall in sales is expected to continue during Q3FY2010. The delayed monsoon is expected to affect kharif output this year. Availability of gas from Reliance basin is expected to help companies increase their output to a certain extent. Lower input cost and interest expenses will help the industry improve its profit margins during 2009-10, which are expected to be in the range of 3-4%.

Production of fertilisers is expected to clock a healthy 8.5% growth in 2009-10 due to availability of natural gas from the KG-basin project. A fall in the raw material prices with moderation in imports would reduce the Government's burden in 2009-10. With a fall in subsidy, net sales of the industry are also expected to witness a slower growth in the coming quarters.

Being an intermediate for a host of industries, demand for organic chemicals is related to the demand growth in the end user industries such as PTA, textile, pharmaceuticals, fertilisers, dyes and paints, paper, resins etc. Weak demand-Supply situation and lower prices are likely to affect production, sales growth, and profitability during 2009-10. However, there is a significant scope for growth in the long term with the per capita chemicals consumption being only 5 kg per annum, much lower than the comparable figures in the developed markets. Commodity nature of the bulk chemicals industry and fluctuations in prices subjects the revenues and profits of the players to volatility. Thus, there are concerns on sustainability of the earnings for pure bulk chemicals players.

The demand for titanium dioxide is dependent on the paints sector. Paints industry is expected to display moderate growth in the medium term backed by improved volumes in both the decorative and industrial paints segment. A healthy (but lower) growth in GDP, access to housing finance and fiscal incentives to housing sector may provide impetus to the housing activity may continue to drive growth in decorative paints business.

With the shift in emphasis on product innovation, branch building and environmental friendliness, the chemicals industry is increasingly moving towards greater customer orientation. Even though India enjoys an abundant supply of basic raw materials, it will have to build upon technical services and marketing capabilities to face global competition and increase its share of exports.

The demand for fertilisers is expected to continue to grow moderately over the short to medium term. However, over the longer term, significant increase in agricultural production would be required which would require significantly higher level of fertiliser consumption than the current levels. For Indian fertiliser manufacturers, securing supplies to a cost-effective feedstock holds the key to future growth. Under the new concession scheme for fertilisers, factors for increasing shareholder value include effective feedstock management, increased energy efficiency, large capacity sizes, effective location of plant, and high capacity utilisation.