Current Fertilizer Situation In INDONESIA

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INTRODUCTION

- *Green Revolution (GR) in 1960's; with the improvement of utilization of Seed, Pesticide, Irrigation, Planting technology and Fertilizers has resulted an improvement of the food crops production significantly, especially in Indonesia.*
- *Since the "GR" World food crops production's growth was not less than 2 % per year.*
- *Within 1969 to 1986, Indonesian Paddy Production increased by 13 % per year. While 1986 to 1996 the growth was around 2.9 % per year. It is attributable to the utilization of fertilizers, especially urea.*

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- *Since then the GOI treated the Urea fertilizer as the strategic commodity.*
- *GR has contributed significantly to the improvement of the farmer productivity in the developed countries compared with the developing countries due to:*
  a) *Number of farmers is comparatively lower, while the plantation area is larger;*
  b) *Ability to utilize fertilizers and mechanization in the agricultural sector is high, while the price of the agricultural equipments/machineries are low.*

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- *Subsequently the price of world's agriculture product is lower*
- *In the developing countries, where more than 50 % of the population living in this sector, the improvement of the food crops production is not parallel with the income of the farmer*
- *The farmer buying power has never improved.*

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Current Economic Development

- *Indonesian economic growth resumed at a rate of 4.8% in 2000 after a sharp recession in 1998 when GDP contracted by 13.7%, and 0.8% growth in 1999.*
- *GDP growth is expected to slowdown to 3.5% in 2001*
- *The inflation rate in 2001 will be more than one digit of 11.5% to 12.8% compared with 3.7% in 2000*
- *The assumption of GDP growth for 2002 has been lowered to 4% from 5% previously.*

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- *The Rupiah exchange rate against US dollar has been lowered to 9,000 from 8,500.*
- *Forecast for inflation rate has been increased to 9% from 8%. Bank Indonesia interest rate is maintained at 14%.*
- *The original assumed crude oil price of US$ 22.00 per barrel has also maintained. At the same time oil production target has been raised to 1.32 million barrel per day (bpd) from 1.23 million bpd.*

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- *The revised version of the deficit is 2.7% of GDP, which is originally budgeted at 2.5%.*
- *The most important element of the package was a 40% cut to fuel subsidies, which causes a price hike for consumers.*
- *The budget gap would largely be financed through the privatisation of state-owned firms, expected to raise IDR 6.5 trillion in total next year, coupled with asset sales worth IDR 35.30 trillion undertaken by IBRA (Indonesian Banking Restructuring Agency)*

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Major Economy Indicators 1996-2001

	1996	*1997*	*1998*	*1999*	*2000*	*2001*)*
GDP Growth (%)	*7.3*	*4.7*	*(13.7)*	*0.7*	*4.8*	*3.3*
Agricultural Sector Growth (%)	*3.0*	*0.6*	*0.3*	*0.3*	*1.7*	*1.4*
Industrial Sector Growth (%)	*9.3*	*5.2*	*(11.4)*	*2.6*	*6.2*	*4.1*
Inflation rate (%)	*6.5*	*11.1*	*77.6*	*20.5*	*4.65*	*7.4*
Unemployment rate (%)	*4.9*	*4.7*	*5.5*	*6.4*	*6.1*	
Exchange rate Rp. to US$	*2,383*	*4,650*	*8,025*	*7,100*	*9,385*	*9,04*
Population (million)	*197*	*201*	*203*	*208*	*212*	*21*

*) Jan-Agt
Source: BPS

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Agricultural Sector Development

- *In the last 5 years the development of the agricultural sector was not too significant to be marked.*
- *However this sector plays a strategic and critical role in driving the Indonesian economic development, especially during the economic crisis hit the Country in mid 1997.*
- *It is due to following factors:*

a) *Agriculture plays a major role in producing sufficient food for more than 200 million people who have increasing "demand characteristics" concerning quantity, quality as well as variety.*

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b) *Agriculture contributes to foreign exchange earnings from export of its various commodities such as palm oil, rubber, coffee, tea, cocoa, fruits, vegetables, and through the supply of raw materials, contributes to the rapid development of the agro-business and non-agricultural sector.*

c) *Agriculture remains one of the largest sectors in the Indonesian economy, contributing about 17% of the GDP.*

d) *It also employs more than half of the total labour force of the country.*

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- *In 1984, Indonesian has successfully achieved a rice self-sufficiency country. However, since the population growth was not par with the acreage growth of the paddy field, then in 1992 Indonesia re-in-state as the net imported rice country.*

- *Over the past decades, the economic structure of Indonesia has changed from domination by the agricultural sector to domination by the industrial sector. The share of agriculture in the national GDP continued to decline, but still have a significant role.*

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- *Since the 6th. Five Years Development Program (PELITA VI) 1995, agricultural policies and programs have shifted from a 'production oriented approach' towards a 'resource based and agri-business oriented approach'*

- *applying the strategies:*

a) *improvement in the quality of human resources*
b) *Increasing self-reliance, and*
c) *Development of agricultural production towards agro-industry and farmers' participation.*

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Major Food crop Development in 1996-2001

	1996	*1997*	*1998*	*1999*	*2000*	*2001*)*
Paddy						
Acreage, mill.Ha	*11.6*	*11.1*	*11.7*	*12.0*	*11.6*	*11.41*
Production, mill Mt	*51.1*	*49.4*	*49.2*	*50.9*	*51.2*	*50.1*
Yield, Mt/Ha	*4.42*	*4.43*	*4.20*	*4.25*	*4.41*	*4.39*
Maize						
Acreage, mill.Ha	*3.7*	*3.4*	*3.8*	*3.5*	*3.5*	*3.30*
Production, mill Mt	*9.3*	*8.8*	*10.1*	*9.2*	*9.3*	*9.12*
Yield, Mt/Ha	*2.19*	*2.61*	*2.64*	*2.66*	*2.70*	*2.76*
Soybean						
Acreage, mill.Ha	*1.3*	*1.1*	*1.1*	*1.1*	*0.8*	*0.72*
Production, mill Mt	*1.5*	*1.4*	*1.3*	*1.4*	*1.0*	*0.86*
Yield, Mt/Ha	*1.19*	*1.21*	*1.19*	*1.20*	*1.22*	*1.19*

**) Jan-Sept*
Source: BPS

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Selected Estate Crop Development 1996 –2001

	1996	1997	1998	1999	2000	2001*)
Oil Palm						
Acreage, mill.Ha	1.24	1.30	1.88	1.99	2.12	n.a
Production, mill Mt	3.20	5.01	4.92	4.94	5.21	6.69
Sugarcane						
Acreage, mill.Ha	0.40	0.38	0.35	0.40	0.41	n.a
Production, mill Mt	2.16	2.19	1.93	1.91	2.09	1.64
Hevea Rubber						
Acreage, mill.Ha	0.54	0.57	0.55	0.54	0.54	n.a
Production, mill Mt	0.33	0.31	0.33	0.30	0.33	1.79

**) Jan-Sept*
Source: BPS

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- *The share of agriculture in the GDP during 1970s declined by 20%, following the steep increase in mining and oil.*
- *In 1980s, with the fall of oil and gas prices and the decline in the mining sector, agriculture retained a fair share, but declined from 24% (1981) to 21% (1989).*
- *In the 1990s, with the gains in the non-oil industrial sector, the share of agriculture declined even further to 15% in 1996 but it increased again to above 16% since 1997 amid other sectors collapsed.*

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Share of Agricultural and Industrial Sectors to GDP 1996-2000 (in %)

	1996	1997	1998	1999	2000	2001*)
Agricultural Sector	15.4	16.1	17.6	19.5	16.9	15.67
Industrial Sector	25.0	26.8	24.1	25.4	26.0	26.41

*) Jan-Agt

Source: BPS

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Fertilizer Situation - "Consumption"

- *Fertilizer consumption in agricultural sector increased five-folds from 1975 to 1990 and increased slightly afterwards before fertilizer subsidy were lifted in December 1998.*
- *Fertilizer consumption dropped in 1999 as temporary resistance from farmers (due to high price of fertilizers) and it started to recover in 2000.*

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Consumption trends of UREA during the last five years were summarized as follows:

- *Having peaked to 4.3 Mt/year in 1998 due to additional requirement for the crash program of food crop cultivation, urea consumption decreased slightly from 3.9 Mt/year in 1996 to 3.8 Mt/year in 1999.*
- *Declining of consumption in 1999 was understood as the effect of fertilizer subsidy removal in December 1998. Urea consumption, however, started to recover to 4.0 Mt/year in 2000.*

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Amsul

Consumption of Amsul decreased from 589,000 t in 1996 to 542,000 t in 1999 to 507,000 t in 2000 due to farmer switched the utilization to urea as substitution.

SP-36

Consumption of SP-36 decreased from 900,000 t in 1996 to 762,000 t in 1999 and estimated to 623,000 t in 2000 due to the price increase in Rupiah (depreciating of Rupiah against US Dollar).

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Fertilizer Consumption in Agriculture Sector, 1991-2001 ('000 t)

Year	Urea	TSP/SP-36	AS	MOP	Total
1991	3 097	1 256	606	444	5 403
1992	3 410	1 290	608	482	5 790
1993	3 095	1 173	639	366	5 273
1994	3 288	1 125	615	302	5 330
1995	3 710	1 070	653	404	5 837
1996	3 918	900	588	375	5 781
1997	3 324	663	351	350	4 688
1998	4 290	869	408	179	5 746
1999	3 808	762	542	295	5 407
2000	3 960	623	507	359	5 449
2001*)	3 178	420	360	180	4 138

*) Jan-Sept

Source: APPI/PUSRI

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Fertilizer Situation - "Production"

UREA

- *Urea production capacity reached almost 7.0 Mt/year in 1999, when the first granular urea plant (Kaltim POPKA) came on-stream. It has increased 14 times compared to 1975 and 40% over the capacity of 1990.*

- *In 25 years, urea production continued to increase from 402,000 t/year in 1975 to 5.0 Mt/year in 1990 and 6.3 Mt/year in 2000.*

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Amsul

Amsul production started in 1972, with plant capacity of 200,000 t/year. The capacity had been increased to 650,000 t/year in 1986. Amsul production increased from 122,000 t in 1975 to 660,000 t in 1990 and 491,000 t in 2000, as it was substitued by urea.

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SP-36

- *TSP has been produced locally since 1980 with the production capacity of 500,000 t/year.*
- *The TSP production capacity increased to 1 Mt/year in 1983 and 1.2 Mt/year in 1986.*
- *Since 1994, TSP down graded to SP-36 to avoid an excessive application, which affects soil quality. TSP production increased from 469,000 t in 1980 to 1.3 Mt in 1990, slightly above the installed capacity.*

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- *The production began to decrease below 1 Mt/year since 1995.*
- *SP-36 production in 2000 was 511,000 t only.*

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Fertilizer Capacity and Production 1991-2001 ('000 t)

Year	Urea		SP-36/TS P		Amsul	
	Capacity	Prod.	Capacity	Prod.	Capacity	Prod.
1991	4 997	4 973	1 200	1 087	650	575
1992	4 997	4 950	1 200	1 298	650	614
1993	4 997	5 133	1 200	1 140	650	526
1994	4 997	5 289	1 200	1 177	650	612
1995	6 396	5 895	1 200	867	650	679
1996	6 396	6 200	1 200	986	650	657
1997	6 396	5 454	1 200	789	650	438
1998	6 396	6 155	1 200	650	650	324
1999	6 966	5 946	1 200	849	650	461
2000	6 966	6 334	1 200	511	650	491
2001*)	6 966	4 074	1 200	488	650	336

*) Jan-Sept

Source: APPI/PUSRI

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Fertilizer capacity in Indonesia

Production Unit	Location	Capacity (TPY)	Production Start (Year)
PUSRI	Palembang		
Pusri II Urea		570 000	1974
Pusri III Urea		570 000	1976
Pusri IV Urea		570 000	1977
Pusri IB Urea		570 000	1993
PETRO KIMIA	Gresik		
ZA I		150 000	1972
ZA II		250 000	1984
ZA III		250 000	1986
SP-36 I		500 000	1979
SP-36 II		500 000	1983
Urea		460 000	1994
Phonska (NPK)		300 000	1999
Pupuk Kujang-Urea	Cikampek	600 000	1978
PIM - Urea	Lhokseumawe	627 000	1984
PKT	Bontang		
Kaltim I - Urea		700 000	1984
Kaltim II - Urea		570 000	1984
Kaltim III - Urea		570 000	1989
Popka - Urea		570 000	1999
AAF - Urea	Lhokseumawe	660 000	1983

New Projects

There are three additional plants, namely:

- *Pupuk Iskandar Muda 2, located at North-Aceh, Sumatra: Integrated ammonia and urea project, with the plant capacity of 570,000 t/y granular urea.This project is suspended at around 50% completion due to lack of fund and instability of the local political situation. However this project is expected to be on-stream by early 2003.*

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- *KALTIM 4, Located at Bontang, East Kalimantan: Urea plant, with the capacity 726,000 t/y of granular urea. This project is expected to be on-stream by mid-2002.*

- *Pupuk Kujang 1B, Located at Cikampek, West Jawa: Integrated ammonia and urea project, with a capacity of 570,000 t/y prilled urea. This project is suspended temporarily due to lack of fund, but is expected to start again in 2002.*

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Fertilizer Subsidy

- *GOI start to subsidize fertilizers in 1971, in line with the implementation of GR, in order to secure the food crops production.*
- *The subsidy covers:*
  - *i. Setting a floor price for paddy as farmer's output and an affordable ceiling price for fertilizer.*
  - *ii. Securing the supply of fertilizers to farmers.*
- *Fertilizer subsidy for 1987/1988 amounted to Rp. 756 billion and decreased gradually. For 1997/1998 the amount was Rp. 137 billion, however for the year 1998/1999, it rose to Rp. 2,120 billion.*

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- *Oct. 1993, subsidies for imported fertilizer such as, MOP, SOP,Ca-Nitrate, K-Nitrate and NPK were abolished. Subsequently the distribution and price of the unsubsidized fertilizers were decontrolled.*
- *Oct 1994, subsidy for TSP and Amsul were also abolished, however the Gov. still maintained control on their distribution.*
- *June 1998, as an emergency measure amid the economic crisis and shortage of food grain supply, all fertilizers for food crops were subsidized.*

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- *Dec. 1998, Gov. removed all subsidies for fertilizer. As a compensation, Gov. provided soft loans to the farmer with 10.5% interest rate instead of normal rate of 14%.*
- *At the same time the Gov. also released its control on the fertilizer trade.*

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- *However with the weakness of the farmer's working capital, the Gov. appointed PT. PUSRI (Holding) as the Gov. arm in providing a reasonable fertilizer price affordable to the farmers.*
- *Abolishing of the subsidy caused the price of fertilizers to increase sharply. Urea from Rp. 450 to Rp. 1,115/Kg, SP-36 from Rp. 675 to Rp. 1,600/Kg, Amsul from Rp. 506 to Rp. 1,000/Kg and KCl from Rp.850 to Rp. 1,650/Kg.*

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Fertilizer Subsidy Development 1987-1998, in billions of Rupiah

Year	Billion Rp.
1987/88	756
1991/92	301
1992/93	175
1993/94	265
1994/95	457
1995/96	143
1996/97	137
1997/98	137
1998/99	2,120

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Prices: Fertilizer vs Paddy 1993-2001, Rp/kg

	1995	1996	1997	1998	1999	2000	2001*)
Paddy	400	450	525	1.000	1.500	1.400	1.500
Urea	260	330	400	450	1.115	1.050	1.050
SP-36/TSP	480	525	600	675	1.600	1.300	1.600
Amsul	295	355	450	506	1.000	900	1.100
KCl		480	480	850	1.650	1.500	1.700
Price ratio Paddy to Urea	1.54	1.36	1.31	2.22	1.35	1.33	1.43

*) Jan-Sept
Source: BPS

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Fertilizer Consumption in Agricultural Sector ('000 t)

	1995	1996	1997	1998	1999	2000	2001*)
Urea	3.71	3.918	3.324	4.290	3.808	3.96	3.178
SP-36/TSP	1.07	900	663	869	762	623	420
Amsul	653	588	351	408	542	507	360
KCl	404	375	359	179	295	359	180

*) Jan-Sept

Source: APPI

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HOLDING COMPANY

- *Government appointed PT. PUSRI as the Operating Holding Company to coordinate all fertilizer companies in managing fertilizer requirement in the Country. In other words, the holding company is given the task to provide good quality, adequate quantity and affordable fertilizers to the farmers.*

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Future prospect

- *How does the Gov. improve the farmer 's revenue?*
  a. *Expanding acreage of paddy field and improving productivity level by correct utilization of seed, pesticide, irrigation, planting technology and fertilizers.*
  b. *Providing the farmers with the affordable price of seed, pesticide, planting machineries and fertilizers.*
  c. *Providing the farmers with soft loan's working capital.*
  d. *Assure the farmers of better price of their product output/paddy.*

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- *The fertilizer, especially urea is the strategic commodity to improve food crops productivity. It is very crucial to keep fertilizer industry survive.*
  a. *To ensure availability of the feed stock (Natural Gas) with reasonable price (which is 60% of the product's cost component).*
  b. *Currently gas availability and pricing is not firm. Beside, based on a trusted information, there will be different prices charged for different location. Since the urea selling price to be maintained the same at any location, it is recommended to sell NG with one price to the fertilizer industries.*

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c. *Since it is very difficult for the fertilizer industries to create fund from its profit for its development program, it should be given the opportunity to grow in the petrochemicals sectors.*

d. *For the privatization, as long as the Gov. controls the price (direct or in-direct) it will be difficult to obtain optimal value of the fertilizer's enterprises. It is recommended to hold the privatization for a good opportunity, where:*

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i. *High domestic production capacity achieved, whereby the domestic demand will not be affected by privatization of one or two plants.*
ii. *The farmers has the capability to buy higher fertilizer's price.*
iii. *The farmer can afford the fluctuation of the fertilizer price.*
iv. *Until national economic parameters improved. i.e. the Banking rating, other corporate and efficiencies rating improved. (it is not pressurized by low national's economic rating)*

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- *Availability of the experience manpower in the fertilizer sector with more than 40 years of national experiences, in this sector (since 1960) will strengthen the opportunity for the development in other sectors domestically and internationally.*

- *The threat to be considered is that, there is an unhealthy competition from fake fertilizer products, which are abundant in the market recently and which in turn will jeopardize the agricultural product.*

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