IV. Political Compulsion And Agricultural Policy Changes

1. India

(1) Agricultural Policy Changes in India

The period from 1950-51 to mid 1960s which is also called pre-green revolution period witnessed tremendous agrarian reforms, institutional changes and development of major irrigation projects. The intermediary landlordism was abolished; tenant operations were given security of farming and ownership of land. Land ceiling acts were imposed by all the states to eliminate large sized holdings and cooperative credit institutions were strengthened to minimise exploitation of cultivators by private money lenders and traders. Land consolidation was also affected to reduce the number of land fragments.

Expansion of area was the main source of growth in the pre-green revolution period. The scope for area expansion diminished considerably in the green revolution period in which growth rate in area was less than half the growth rate in the first period. Increase in productively became the main source of growth in crop output and there was significant acceleration in yield growth in green revolution period. The main source of productivity increase was technological breakthrough in wheat and rice. The country faced severe food shortage and crisis in early 1960s which forced the policy makers to realise that continuous reliance on food imports and aid imposes heavy costs in terms of political pressure and economic instability and there was a desperate search for a quick breakthrough in agricultural production.
One choice before the country was to go for spread of new seeds of high yielding varieties (HYV) of wheat and rice. Amidst a serious debate the then Government took bold decision to go for the import and spread of HYV of wheat and rice which involved use of fertilisers and irrigation. This marked second phase of agriculture policy in the country. The strategy produced quick results as there was quantum jump in yield. Consequently, wheat and rice production in a short span of 6 years between 1965-66 and 1971-72 witnessed an increase of 30 million tonnes which is 168 percent higher than the achievement of 15 years following 1950-51.

The biggest achievement of new agricultural strategy, also known as green revolution technology, has been attainment of self-sufficiency in foodgrains. Since the green revolution technology involved use of modern farm inputs, its spread led to fast growth in agro input industry. Agrarian reforms during this period took back seat while research, extension, input supply, credit, marketing, price support and spread of technology were the prime concern of policy makers.

Two very important institutions, namely Food Corporation of India and Agricultural Prices Commission, were created in this period in the beginning of green revolution period, to ensure remunerative prices to producers, maintain reasonable prices for consumers, and to maintain buffer stock to guard against adverse impact of year to year fluctuations in output on price stability. These two institutions have mainly benefited rice and wheat crops which are the major cereals and staple food for the country.

The next phase in Indian agriculture began in early 1980s. While there was clear change in economic policy towards delicensing and deregulation in Industry sector, agriculture policy lacked direction and was marked by confusion.
Agricultural growth accompanied by increase in real farm incomes led to emergence of interest groups and lobbies which started influencing farm policy in the country. There has been a considerable increase in subsidies and support to agriculture sector during this period while public sector spending in agriculture for infrastructure development started showing decline in real term but investments by farmers kept on moving on a rising trend. The output growth, which was concentrated in very narrow pockets, became broad-based and got momentum. The rural economy started witnessing process of diversification which resulted into fast growth in non foodgrain output like milk, fishery, poultry, vegetables, fruits etc which accelerated growth in agricultural GDP during the 1980s. This growth seems largely market driven. Though green revolution has been widely diffused in irrigated areas throughout the country, the dry land areas have not seen benefit of technological breakthrough as witnessed through green revolution technology. Of late, improved varieties of oilseeds and course cereals have provided some opportunities for productivity growth in dry land areas.

A new phase was started in India's economic policy in 1991 that marked significant departure from the past. Government initiated process of economic reforms in 1991, which involved deregulation, reduced government participation in economic activities, and liberalization. Though much of the reforms were not initiated to directly affect agriculture sector, the sector was affected indirectly by devaluation of exchange rate, liberalisation of external trade and dispreature to industry.\textsuperscript{161}

Then came new international trade accord and WTO, requiring opening up of domestic market. Initially there were strong apprehensions about the impact of trade

liberalisation on Indian agriculture which later on turned out to be real threat for several commodities produced in the country.

All these changes raised new challenges and provided new opportunities that required appropriate policy response. There was a strong pressure on the government to come out with a formal statement of agriculture policy to provide new direction to agriculture in the era of WTO. The challenges facing Indian agriculture can be grouped in four categories relating to (1) growth (2) sustainability (3) efficiency and (4) equity. There are also other important concerns like food security, livelihood, employment, improvement in standard of living of agricultural population. Addressing these challenges requires efforts on several fronts like incentive structure, infrastructure, technology, market development, extension, regulations, input supply, tenancy etc.

(2) Agricultural Trade Policies Under The WTO Regime

Indian agricultural policy has long been characterized by border and domestic interventions aimed at protecting farmers from international price volatility. To achieve this goal the Government of India has at various times implemented many policies including tariffs, quantitative import restrictions (QRs), import licensing, domestic marketing controls, and export restrictions. These controls have been implemented with a view toward the balance of domestic demand and supply, export potential, and the national balance-of-payment situation.162 There were sweeping reforms in exchange rate policies and a marked decline in industrial protection in 1991, but it was not until later in the decade that direct reforms began in agriculture. Agricultural reforms started at the

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border, with the opening up of rice exports in 1994. In comparison, the reforms in the arena of domestic policy have been slow. These reforms have been to a large extent a consequence of unilateral policy initiatives rather than the results of reduction commitments required under the WTO.\textsuperscript{163}

The economic reforms introduced in 1991 initiated a partial liberalization of India's trade regime, mainly because the progress in phasing out QRs on consumer products, including agricultural products, was slow. Except for the liberalization of import licensing on sugar and cotton in 1994, the same year that exports of rice were opened up, most agricultural products remained subject to import controls. India's import policy reform did not begin in earnest until the abolition of QRs was required under the WTO in 2001. Export controls in agriculture were also slow to be removed.

The most important import policy features to occur are removal of QRs and the binding of tariffs at high rates. In 1997, with considerable improvement in its post-crisis balance-of-payments situation, India agreed to phase out its QRs over a nine-year period. Under a dispute settlement ruling by the WTO Appellate Body, India then had to accelerate lifting these measures to April 2001. To lessen fears of a surge in imports when the QRs were abolished, the Indian government trade policy\textsuperscript{164} provided for a ministerial-level standing group that was to function as a "war-room" tracking and analyzing information about imports of 300 sensitive items, of which over two-thirds were agricultural products. The Indian government also explored options that would permit the imposition of temporary QRs to stem any import surges. Removal of QRs increased attention to enforcement of existing legislation concerning bio-security and


sanitary and phytosanitary permits and other packaging and labelling requirements for imports of agricultural commodities. Strict enforcement of the non-tariff protection measures was perceived as one mechanism that would lessen the risk of a sharp rise of imports.

Following the 1991 economic reforms, India also progressively trimmed the list of products that were canalized (directed to state-owned enterprises) for import. However, as late as 2002, imports of a few critical commodities continue to be controlled by State Trading Enterprises (STEs). The EXIM policy for 2002-2007 imposed further reform by retaining import monopolies only in respect of copra and coconut oil (State Trading Corporation, STC) and some cereals.

India adopted a modified tariff schedule on March 15, 2000. The tariff bindings, subsequent to revision in 1996 and renegotiations within the WTO in 1999, retain the overall structure notified after the Uruguay Round: 100 percent for commodities, 150 percent for processed products and 300 percent for edible oils. Departures from this pattern are mainly with respect of tariff lines that were negotiated as special cases.

An important feature of India's post Uruguay Round tariff structure is a wide gap that often exists between the bound and applied levels. Against the simple average bound tariff rate of 115 percent, the average applied rate of basic customs duty (as of April 1, 2002) was 35 percent. The large gaps between bound and applied rates has two key implications. First, protection levels (even if prohibitive at the applied rates) are not as high as the bound rates. Second, policymakers have room for tariff adjustments as an instrument of agricultural policy within the WTO bound rates.

Even with the various import policy changes implemented subsequent to 1991, agricultural imports remain quite low—less than $2 billion for cereals, cereal

Throughout much of the 1980s, restrictive import policies, direct export restrictions and the overvalued exchange rates imparted a considerable anti-export bias to the Indian economy. Exports of agricultural goods have been restricted through myriad controls that included prohibitions, licenses, quotas, marketing controls and minimum export prices (MEPs). The quantitative controls on exports were often administered through trading enterprises in the public and cooperative sectors, and were maintained, in principle, for the sake of domestic food security. Export restrictions have also been applied on some products for environmental and moral reasons. Only a limited number of items, such as wheat and wheat products, barley, maize and other coarse cereals and their flours, ghee (butter oil) and hydrogenated vegetable oils were allowed for highly-regulated export subject to ceiling limits. Export licenses were generally required for products such as cattle, milk, cereals, edible oils, and pulses. Simultaneously, with a view to improving export competitiveness, the Indian government provided support to exports through three instruments: cash incentives to manufacturers of export oriented processed foods, subsidization of freight costs, and income tax exemption on export earnings.

Following the 1991 economic reforms, India terminated its policy of granting cash incentives to exports, but retained income tax exemptions for profits from exports. India’s agricultural export policies then began to show signs of change with the 1994

\[1.65\] For example, exports of beef and tallow fat and/or oil of animal origin, excluding fish oil, are prohibited.
opening up of exports of rice. Export policies have been progressively liberalized since then, barring the occasional reversal. Procedurally, the Ministry of Commerce, through the Director General of Foreign Trade, notifies the imposition or elimination of restrictions in order to promote exports while ensuring an adequate domestic supply of essential commodities at reasonable prices. The policy reforms leading to the liberalization of exports include reductions in products subject to state trading, relaxation of export quotas, the abolition of MEPs, and increased credit availability for exports. However, the Indian government retains the authority to re-impose minimum export prices at its discretion.

To further encourage exports of value-added agricultural products, agricultural export zones (AEZs) have been established. The purpose of the AEZs is to source raw agricultural products and complete their processing and packaging within a geographical region. This "cluster approach" involves states identifying the regions in which products with export potential are being produced. Through December 2002, the Government of India had approved 41 AEZs in 17 states. The central government contributes around 30 percent of the total funding for AEZs, while the state governments and private bodies supply 15 percent and 55 percent, respectively.

Export subsidization by India rarely has been an issue in the past. However, when world cereal prices were at very low levels the late 1990s, increases in domestic support prices for wheat and rice in India led to increased production and procurement. Consequently, India's food grain stocks grew to unusually large levels compared to usual carry-over quantities. In November 2000, the Indian government initiated a policy.

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of subsidies to export cereals, by offering wheat for export at a price "equal to the economic cost minus two years carrying cost but not lower than the central issue price for [those below the poverty line] BPL". The subsidy was expanded to rice the following year.

Although still small in relation to total domestic production, the export pricing policy decisions resulted in growth of India's exports of food grains to levels previously unseen.

(3) Agricultural Domestic Policies Under The WTO Regime

In India, domestic support for agriculture has been provided mainly through two channels: Minimum Support Price (MSP) guarantees for basic staple commodities and provision of inputs subsidies. In addition, a complex array of other policy instruments has been employed.

India has witnessed only limited progress in reforms in the agricultural sector since economic reforms were launched in 1991. For example, only recently were steps taken to removal some of the marketing restrictions that exist. The Milk and Milk Products Order (MMPO) was reformed in July 2001 and March 2002 to eliminate restrictions on investments in new processing capacity. Other developments include removal in February 2003 of licensing requirements, stocking limits, and movement restrictions of wheat, paddy/rice, coarse grains, edible oilseeds and edible oils under the Essential

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Commodities Act of 1955. In February 2003, remaining restrictions were removed on futures trading on 54 commodities, including wheat, rice, oilseeds and pulses that had been prohibited under the Forward Contract (Regulation) Act of 1952. Despite these market-oriented reforms, India's domestic agriculture policies in recent years have resulted in increased government procurements of food grains and expansion of input subsidies for fertilizer, electricity and irrigation.

Subsidies to farmers resulting from interventions in fertilizers, electrical power and irrigation began to increase in the mid 1980s, and have continued to climb in current and constant (real) value. In 2002 these input subsidies reached the point of potentially being fiscally unsustainable and subsidies for fertilizer, power and irrigation have also become environmentally harmful.\textsuperscript{170} The Indian government claims to be gradually moving towards a more deregulated regime while emphasizing the need for investment in power, irrigation and rural infrastructure. In the budget speech for 2002-03, an increased allocation of resources for rural roads, irrigation and credit, electrification of villages, rural employment (including through payment in the form of foodgrain), and measures to improve diversification of crops were highlighted. To encourage capital investments by farmers, the 2002-03 budget also proposed a reduction in import duty on agricultural machinery and implements from 25 percent to 15 percent.\textsuperscript{171}

India initially reported its fertilizer, electricity, irrigation, seed and credit subsidies to the WTO under non-product specific support commitments. Despite its high levels of recent expenditures, India's non-product specific support has been less than the de minimis for developing countries of 10 percent of total value of agricultural production.


India's non-product specific AMS decreased from $5,772.1 million in 1995 to $930.3 million in 1997 (still the latest notification available), due to a shift in the accounting of input subsidies from non-product specific support to special and differential treatment. India has brought many changes to its agricultural policy to cope with new trade regime. India's control over its agricultural policy has been quite flexible to cope with the fluctuation of the international agri-markets.

2. Korea

Korean agriculture has experienced considerable structural changes along with economic development and policy reform in the process of trade liberalization. In the early 1960's, agricultural shares of GDP and total employment accounted for almost 50 and 60 percents respectively. It took only around four decades for the shares to fall to the current levels of 4.5 and 8 percents, each. Such rapid changes in Korea are regarded as a rare case in the world. Korea is among the net food importing developing countries which in general maintain protective positions in the ongoing multilateral trade negotiations.

(1) Agricultural Policy Changes in Korea

During the time of early stage of economic development, all the government policies were targeted to achieve economic growth. Agricultural policy also had to be auxiliary to overall economic growth policy. At this time of high inflation caused by overall
supply shortage in the economy, price stabilization was important precondition for economic growth and hence it was pursued as an important macroeconomic policy objective. In agriculture, therefore, government tried to maintain agricultural prices, particularly rice price, as low as possible.

During 1960's rice as a single commodity had taken very large weights in consumer price index, accounting for around 200 out of total weights, 1000. In this context, it was believed that low rice price would help improve competitiveness in the economy by lowering wage rates. The purchase price for rice, according to the Grain Management Law enacted in 1950, used to be set very low, sometimes even lower than production cost at the very beginning stage of economic development in early 1960's.

With the disincentive low grain price policy, combined with poor agricultural infrastructure, domestic food had always been in short supply. Foreign aid from abroad was one way to solve the serious supply shortage problem in the short run. In this period, the grain imports by the U.S. PL480 program(1956-1970) had contributed not only to relieving food shortage but to inflation control, and hence to social stability and economic growth.

The items imported under the PL480 program were mainly cotton and grains such as wheat, barley except for rice. However, the continuous surge of PL480 items has brought about the structural vulnerability of domestic production basis for those products. In this context, the PL480 program had served as an opportunity for the Korean agricultural structure to be centred on rice farming system. However, the Japanese colonial policy (1910-1945) is generally regarded as the most important momentum for forming the current rice-dominant farming system. Korea under the Japanese colony was forced to serve as a supplier of staple food, mainly rice, to Japan.
Thus, the Japanese colonial agricultural policy had been targeted to enhance rice production through the skewed investment toward rice production.

Land reform program was implemented in order to establish modern land ownership system by enacting Land Reform Act in 1949. The long-lasting tenant system was abolished so that farmers could have ownership for the land where they had been cultivating. Farmers only could own the arable land. At the same time, the law restricted the maximum farm size to 3 hectares, and prohibited renting or leasing of farmland. Although the restriction on farm size was the reflection of the socio-economic condition aiming at equitable distribution of land, such land reform brought about efficiency problem by having built the small scale farming structure in Korean agriculture.

From late 1960's, the disincentive agricultural price policy had been seriously challenged. In the process of economic development, the gaps between agriculture and manufacturing sector, and rural and urban areas had been continuously expanded due mainly to the rapid industrialization and urbanization. Large migration and exodus from rural area entailed. Domestic production slowed down, and hence could not meet the rapidly increasing food demand. Now policies that not only support farm income but also increase production were necessary. The goals of agricultural policy in this period were, therefore, to support producer income, to achieve self-sufficiency in food, and to maintain balanced development between rural and urban areas including the improvement of rural living environment.

With the low purchase prices before 1970's, farmers had been discouraged to increase rice production. Government also failed to secure the sufficient quantity necessary for stabilizing prices or other policy objectives. In 1968, Korea abandoned the low rice
price policy, and instead in 1970 the government introduced the two-tier price scheme. The main objective of this policy is to protect both the producers and consumers.

Small sized farmland per household, irregular shape of paddy fields, poor conditions of farm road, irrigation and drainage systems, and fragmentation of holdings have been the most frequently mentioned features on Korean farm land. To support large population with small and poor conditioned farmland, productivity-enhancing policies were implemented focusing on agricultural infrastructure improvement such as farm size enlargement, readjustment of arable land, development of water resource, improvement of drainage and irrigation system. The government agency (Rural Development Corporation) converted the farming type from non-farmer landowners, retiring farmers, and part-time farmers into full-time farmers or agricultural corporations using various ways such as purchase and resale, lease and sublease, and loans. Also, rearrangement and exchange of plots between neighbouring farmers have been strongly encouraged by the government to consolidate scattered land for production efficiency. To prevent reduction in arable land in the process of industrialization and urbanization, all arable land available were classified into two different types, i.e. 'absolute arable land' and 'relative arable land'. The absolute arable land was not allowed to be used for any purposes other than agricultural production.

Early in the 1970's, high yielding rice variety named as Tong-il Rice was developed and its cultivation was highly encouraged by the government in pursuit of rice self-sufficiency. The development and nationwide spread of high yield rice variety played a significant role in increasing domestic rice production, and hence achieving self-sufficiency in staple food. Production of Tong-il Rice had been sharply increased up to 1978, thereafter it had continuously declined and in 1991 completely disappeared.
because it could not satisfy Korean consumers taste. Despite the technological innovation of developing HYV, it had some limitation in that its innovation and adoption were initiated by the government rather than induced from farmers for the purpose of achieving rice self-sufficiency. Hence, after the rice self-sufficiency objective was achieved in 1991, attempts for further innovation of HYV were not actively made.

Although Korea continued to pursue import liberalization since the end of 1970's, Korean agricultural markets still remained highly protective, judging from international standard. However, the environment surrounding Korean agriculture has dramatically changed since late 1980's, domestically and internationally. Having faced strong pressure internationally to lower import barriers substantially, Korea had no choice but to change fundamental agricultural policy toward being more market oriented. Indeed, the UR was the key force that changed Korean agriculture drastically.

There have appeared a couple of factors that have required changes in domestic support program. According to the AMS(Aggregate Measurement of Support) reduction commitment in WTO Agreement on Agriculture, the quantity and/or price of rice are subject to reduction. Also, a serious rice surplus problem is expected due mainly to the high level of rice productivity and continuously decreasing trend of per capita rice consumption. In this circumstance, the domestic policy of government purchasing program needs to be changed in such a direction as reducing government intervention and recovering market forces.

With the launch of WTO in 1995, Korea's agricultural policy changed more rapidly toward market orientation for which Korean agriculture was not ready at all. Direct payment program began to be introduced although it is not completely in conformity
with the Green Box category of the Agreement on Agriculture. Environmental aspect of agriculture was also emphasized for the purpose of pursuing sustainable agriculture and environmentally friendly agriculture. Among the direct payment programs newly developed so far are payment for producer retirement, payment for environmental program, and payment for preserving rice paddy field, some of which are of the nature of Green Box policy others not. Korean agricultural policy is now transforming from market intervention policy to direct payment and government service which are permitted under the WTO Agreement on Agriculture as Green Box.

As time goes by, the small farm size has long been regarded as an obstacle to increase the efficiency in agricultural sector. As a result, the Land Reform Act was first revised in 1994 and further in 1996 and was finally replaced by Farmland Act enacted in 1996. In the Farmland Act of 1996, the limit on farm size was rescinded in the specially designated area for agricultural development, the Agricultural Promotion Zone which covers 61.2 percent of total farmland. The upper limit of land ownership was enlarged up to 10 hectares, and marginal land in productivity was permitted to change its use for non-agricultural purpose. It was also made possible for agricultural corporations to own farmland.

In 1992 when the UR negotiation was about to be finalized, the Korean government decided to implement a large scaled 'Agricultural Investment and Loan Program' in order to cope with the coming agricultural market opening through the improvement of agricultural production structure. Since then government budget has been dramatically increased for that program.
Total fund of 42 trillion won (approximately 42 billion USD) was appropriated for the program during the period of 1992 to 1998. Additional 45 trillion won was assigned to extend the program until 2004. This enormous fund was invested in such projects as mechanization, readjustment of arable land, water resource development, agricultural facilities modernization, enlargement of farming size, technological development, bringing up of the elite farmers group, improvement of marketing structure, diversification of income sources, and improvement of rural life environment and welfare. However, the effectiveness of the agricultural budget outlay has not been evaluated as successful. Considerable amount of the budget was not used for the actual investment or loan purposes, but instead for the compensation for past policy failure.

(2) Structural Consequences of Agricultural Policies

Rice takes dominant positions in both agricultural production and food consumption in Korea. In 2002, 1,138 thousand hectares (61%) out of total cultivated land area of 1,862 thousand hectares were allocated to rice farming. According to 2000 agricultural census, 787,451 households (57%) out of 1,383,468 farm households are cultivating paddy rice of which 512,158 households are producing rice on full-time base.¹⁷²

Consequently, rice, as a single commodity, accounts for 33 percent of total agricultural production values, and 54 percent of average farm income per farm household. In addition, about 32% of per capita energy daily required is provided by rice. The rice dominant diet and agricultural production pattern have been formed from ancient times mainly due to the climate factor resulting from the geographical location

in the Asian monsoon climate zone. In this context, rice inevitably has taken the central position in government policies for a long time. Even in the UR negotiations, rice was excepted from 'tariffication'. As a result, rice is the only product under quantity restriction now. Moreover as far as the government support is concerned in terms of Producer Support Estimate (PSE) in 2002, more than one third of Korea's total PSE are attributable to rice.\textsuperscript{173}

The Korean government has pursued policies, for a long time, of expanding farm size to improve production efficiency. The number of farm households with farm size larger than 3 hectares continued to increase while that of other smaller sized farm households has decreased. The government's efforts seem to be partly rewarded, though not enough. Combined with these policy effects, the severe competition after UR might also have made some contributions to the expansion of large sized farm households. However the number of farm less than 1 hectare is still dominant with over 60 per cent of total farm households.\textsuperscript{174}

The ultimate limitation to farm size expansion seems to be the large farm employment. Despite the rapid decrease in farm population over last four decades, too large population is still employed in agricultural sector. The number of Korean farmers is almost the same as the total number of Germany, France, and UK combined. The implications of large farm employment for policy reform will be discussed later. The rapid structural changes mainly due to the fast overall economic growth for last four decades have led to serious 'growth fatigues' in agricultural sector. One of the fatigue symptoms lies in the overflow of old farmers. Currently, almost 50 per cent of total Korean farmers are 60 years old and above. In the early stage of economic development,

\textsuperscript{173} OECD PSE database
large out-migration of agricultural labours, in particular the labours with high productivity, has been supported by dual economic development theories. It had been true for Korea through 1970s. However, in Korea, since the early 1980s the migration has not been supported as the most important factor for the rapid drop of farm labour. Rather, the natural exits by death or retirement have largely contributed to the decrease of farm labours. On the other hand, the relative employment expansion of non-farm sector has been largely supplemented not by migration from rural sector but by new young entrants.175 This implies that the rural old aged labours have become factors specific to agriculture which have very limited mobility between agriculture and other sectors. The dominant role of natural factors like death or retirement in the reduction of farm labour has very important implications for the aging process of farm labour. The rates of death or retirement are relatively stable and are likely to be independent of the changes in agricultural share of total economy.

Under the time of rapid shrink of agricultural share in the economy, stable exit rates of the aged labours may cause the overflow of the aged labours, which in turn hinders young labours from entering agriculture. The speed of aging process in this case is highly related with that of shrinking process of agricultural share.

From the early 1990s, right before the implementation of WTO agreements and afterward, the slight increase in average price received by farmers is attributed to the grain sector, especially rice which has been under government price support programs. The increase in rice price was substantial even after the Uruguay Round. Without grain price increases the average price for the agricultural products would definitely have declined as usual. However, the prices for vegetable, fruits, livestock animal, which are

also important income sources for Korean farmers, have shown sharp declines or fluctuations. Input prices used for agricultural production have increased relatively fast. Especially, the prices for fertilizer, pesticide, farming machinery, and wage have increased as much as approximately 50 percent after 1995. As a result, the terms of trade, defined as the ratio of the prices received by farmers to the prices paid by farmers, have been deteriorated after 1995, falling down to 83.5 in 2001. It would be rather natural that prices for agricultural products fall as import liberalization proceeds.

But the input prices are expected to continuously increase due mainly to the imperfect market structure, and hence the falling trend of the terms of trade does not seem to be reversed in the near future.

There was a big change in farm and farm household income growth pattern about the time of 1995. Before 1995 both farm and farm household income grew at two digit annual growth rates. However, the growth rates have begun to seriously decline since 1995. In fact, the growth rates of farm and farm household incomes even took some negative values in 1997 and 1998. Considering that the number of farm household has been decreasing at 3 percent annually on average, the stagnation of farm and farm household income has been even more serious. Several factors might be responsible for such a serious stagnation of farm and farm household income. Market opening due to the UR, and financial crisis in 1997 might be the most influential factors.

The stagnation of Korean farm household income is also clearly identified by comparing it with the urban income. Since the late 1980s the farm household income has lagged behind the urban income. However, the gap continued to further widen after

1995. In 2001, the farm household income fell to 76 percent of urban household income. Under the continuing deterioration of agricultural terms of trade, off-farm income might contribute to narrowing the gap between rural and urban household income. However, in Korea its contribution is limited because, despite several political efforts for a long time, Korea still has relatively high dependency on farm income compared with other Asian countries of similar agricultural structure.

(3) Implications for the Future Policy Reform

Korean agriculture is characterized by high level of government support. Although the percentage producer support estimate (%PSE), the government support share of total farm receipts, fell from 75% in 1990 to 66% in 2002, it is still double the OECD average.

The producer support estimate (PSE) consists mainly of market price support (MPS) through domestic and trade policy measures. Even though the share of MPS is on the decreasing trend, it is still about 91 per cent of total PSE in 2002. The remaining 9 per cent is accounted for by the support through budgetary payments. However, about two thirds of the total budgetary payments are performed in the form of supports based on input use and production scale which have been proved to be the most production and trade distorting measures. The MPS has been the most powerful and easy measure for the Korean government to adopt in order to pursue multiple agricultural policy objectives simultaneously with limited budget. Korea, without clearly specifying the individual agricultural policy objective, has adopted the MPS as a policy instrument aimed at agriculture, farmers, and rural area simultaneously, expecting that increasing
agricultural production through price supports could vitalize rural area as well as improve farmers' income.

The Korean key policy instruments based on MPS are grouped into a policy category to be subject to reform in the ongoing WTO multilateral trade negotiation. The major points are (i) Industrial policy for agriculture which focuses on market orientation, competitiveness, pro-environment and high quality products, (ii) Income policy for farmers which focuses on expansion of direct payment, increase in off-farm income and enhancement of income safety net, (iii) Community development policy for rural areas which focuses on rural community as an amenable living space, expansion of welfare infrastructure and enhancement of social safety net.

Rice monoculture in terms of resource allocation and income source has been a salient feature of Korean farming system. Almost all farmers have keen interests in rice. As a result, rice has become a kind of political good rather than a commercial good. Any trial of rice policy reform like government purchase price cut leads to serious protests from farmers. In general, the protests have seldom been overlooked by Korean National Assembly which has the right to finally determine the rice purchase price proposed by government. In the consideration of the skewed allocation of agricultural resources towards rice farming, without rice policy reform, total agricultural policy reform cannot be accomplished. Under the surge of cheap foreign fruits or vegetables, especially from China after its accession to WTO, several government efforts to convert rice farming to other crops cultivation have failed.

Limitation from too large farm policy-targeting group is related with policy effectiveness. The share of agricultural employment in total civilian employment is

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near 10% that is much higher than the OECD average and is almost double the average of the advanced developed countries. With this large size of farmers and limited budgets, any policies based on budget payments would inevitably be diluted in effects. In addition to the large employment, the overflow of the old farmers causes additional problems. First of all, land mobility is highly restricted by the old farmers, which is partly responsible for high land price. Almost half the rice production cost is attributable to rent in Korea. Thus, the high land price is regarded as the most restrictive factor in achieving price competitiveness of rice industry. Old farmers who have very limited mobility between agriculture and other sectors cannot but stick to agriculture, resulting in very rigid land mobility. With this rigid land mobility, it is very difficult to improve the structure of small scale farming system and hence to improve efficiency and competitiveness, which becomes a reason for continuously calling for maintaining current support policy system.

Second, they tend to stick to rice farming, which makes it difficult to convert rice farming to other items which have less political burden. The labour saving technology has progressed most prominently in rice farming than in any other farming. In this technological condition, the old farmers cannot help choosing rice farming with their limited labour forces. Over the last two decades, the labour saving technology has progressed in such a way as almost 70 per cent of labours required to cultivate rice could be saved, which is the most prominent progress compared with the technology progress in any other crops.

Increasing off-farm income could be an important policy option for government to adopt in the process of agricultural policy reform. As mentioned, Korean farmers still derive most of their income from farming. Several government efforts to increase off-
farm income since early 1980's have not been rewarded satisfactorily. Currently the circumstances to enhance off-farm income are increasingly getting worse. The Korean rural areas do not have comparative advantages in terms of wage or land prices to attract outside firms which can serve as off-farm income sources compared with other neighbouring countries like China. Currently, many small or medium sized firms tend to choose their plant site in foreign country rather than in Korean rural area. It is generally believed that Korea has lost opportunity of increasing off-farm income, and hence of securing useful policy option which can relieve the burden of government accompanying in the process of policy reform.

In conclusion, from the early discussions, the most urgent precondition for Korea to reform current agricultural policy is to reduce the size of policy-targeting group, i.e. farmers. If Korea has manageable size of policy-targeting group, the difficulties resulting from political power of farmers and inflexibility in policy options will certainly be reduced while the effectiveness of policy will be increased. Considering that the large farm employment consists of old farmers of which the decrease rates are very stable and the mobility to other sectors is limited, it seems to take some time for Korea to have a reasonable size of farm employment comparable to other advanced developed countries so that some policies for structural adjustment may be implemented effectively. The only way to make it shorter is that government takes some policy initiatives like direct payments for early retirement with full compensation and resource transfers to more productive farmers. However, in the short run, with large number of farmers budget burden to government is unaffordable. That's the main reason why Korean government demands some grace period to reduce the number of farmers to a
certain politically feasible level through securing developing country status in the multilateral trade negotiations.
3. Summary

Indian agricultural policy has long been characterized by border and domestic interventions aimed at protecting farmers from international price volatility. To achieve this goal the Government of India has at various times implemented many policies including tariffs, quantitative import restrictions (QRs), import licensing, domestic marketing controls, and export restrictions. These controls have been implemented with a view toward the balance of domestic demand and supply, export potential, and the national balance-of-payment situation. India's actual import policy reform began with the abolition of QRs which was required under the WTO in 2001. Removal of QRs increased attention to enforcement of existing legislation concerning bio-security and sanitary and phytosanitary permits and other packaging and labelling requirements for imports of agricultural commodities. Strict enforcement of the non-tariff protection measures was perceived as one mechanism that would lessen the risk of a sharp rise of imports.

India adopted a modified tariff schedule on March 15, 2000. The tariff bindings, subsequent to revision in 1996 and renegotiations within the WTO in 1999, retain the overall structure notified after the Uruguay Round: 100 percent for commodities, 150 percent for processed products and 300 percent for edible oils.

To encourage exports of value-added agricultural products, agricultural export zones (AEZs) have been established. The purpose of the AEZs is to source raw agricultural products and complete their processing and packaging within a geographical region.
Despite these market-oriented reforms under the WTO regime, India's domestic agriculture policies in recent years have resulted in increased government procurements of food grains and expansion of input subsidies for fertilizer, electricity and irrigation.

Korean agriculture has experienced considerable structural changes along with economic development and policy reform in the process of trade liberalization. Korea is among the net food importing developing countries which in general maintain protective positions in the ongoing multilateral trade negotiations. With the launch of WTO in 1995, Korean agricultural policy is now transforming from market intervention policy to direct payment and government service which are permitted under the WTO Agreement on Agriculture as Green Box. Enormous fund was invested to improve Korea's agricultural system. However, considerable amount of the budget was used for the compensation for past policy failure.

It will take time for Korea to have a reasonable size of farm employment comparable to other advanced developed countries so that some policies for structural adjustment may be implemented effectively. In the short run, with large number of farmers budget burden to government is unaffordable. That's the main reason why Korean government demands some grace period to reduce the number of farmers to a certain politically feasible level through securing developing country status in the multilateral trade negotiations.