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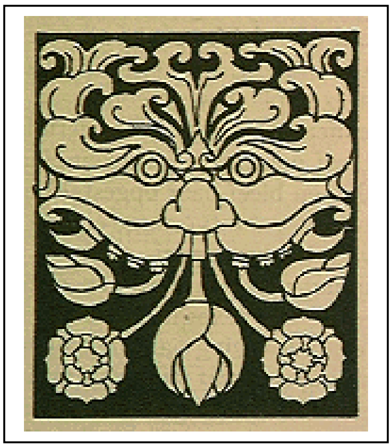

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Indonesia's Crisis and the Agricultural Sector: the Relevance of Agricultural Demand-Led Industrialisation

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Abstract

Following a remarkable period of sustained economic growth and development over the past three decades, Indonesia is experiencing an unprecedented economic and social crisis. The effects of the economic crisis have seriously undermined social welfare gains made by Indonesia over the past three decades. Indonesia has commenced a comprehensive program of economic and social reform aimed at restructuring the economy. This paper provides an overview of the social impact of economic crisis and how the economic crisis has impacted on the agricultural sector. Particular emphasis is placed on the relevance of agricultural demand-led industrialisation (ADLI) to address the economic crisis in Indonesia. The ADLI strategy argues that agriculture can be developed as an engine for economic recovery.

1. Introduction

By the mid-1960s the Indonesian economy had achieved a remarkable combination of rapid growth, macroeconomic stability and steadily declining poverty incidence. Over the period 1966 to 1996, the average annual growth rate of Indonesia's real GNP per capita was well over 5 percent, compared with an average of 2.4 percent for low and middle income countries (World Bank, 1998a). Agencies like the World Bank, the International Monetary Fund and the United Nations Development Program were celebrating Indonesia's overall economic performance as a model of sustained development.

The crisis of 1997 changed all that. Indonesia witnessed a dramatic reversal of fortune. The nominal value of the rupiah fell at one point by 80 percent, annual inflation reached almost 80 percent, the economy swung from rapid growth to even more rapid contraction, unemployment and underemployment climbed, poverty incidence rose, and the US dollar equivalent value of the stock exchange fell by more than 90 percent at its low point.

The causes of the Indonesian crisis are not simple. They result from the dynamic effect of a complex set of factors (Montes, 1998). Although the Thailand crisis may have been the trigger, internal and external conditions combined to move Indonesia's problems from foreign contagion to macro collapse (World Bank, 1998a). According to the Bank,

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the proximate causes of the crisis were the rapid build-up of short-term, unhedged private external debt in recent years combined with the weak banking system and financial sector. Indonesia was hit by the severe drought associated with the El Nino phenomenon, a collapse in regional demand and the lowest international oil prices in decades. In addition, KKN (Bahasa Indonesia for corruption, cronyism and nepotism) has been cited as fatal flaws in this crisis. Well before July 1997, investors showed concern about the bureaucracy, red tape, corruption, insider trading, the soundness of the financial system, the weak legal system, arbitrariness of decisions, and the political strength of established commercial interests. These weak institutional infrastructures have now become one of the main impediments to recovery (World Bank, 1998a).

This paper aims to illustrate and analyse the impacts of the economic crisis on less fortunate people and agriculture, policy responses of the government and the relevance of agricultural demand-led industrialisation to address the economic and financial crisis in Indonesia.

This paper is organised into five sections. Section 2 provides an overview of the social impact of the economic crisis. Section 3 provides an overview of how the economic crisis has impacted on the agricultural sector. Section 4 details the agriculture-related policy responses induced by the crisis. Section 5 outlines the relevance of agricultural demand-led industrialisation during the turbulence of economic crisis in Indonesia. The final section gives concluding remarks.

2. Social Effects of the Crisis

Indonesia has been affected seriously by the Asian crisis. From an economy that has grown by about seven percent per annum throughout the past decade, the Indonesian economy contracted by 13.7 percent in 1998. As the economy contracted, the demand for labour fell, resulting in layoffs in construction and manufacturing, and in falling real wages.

The social impact of the crisis in Indonesia has been immediate and dramatic, bringing to light underlying social tensions which had previously been obscured by relative stability. Price rises, including in particular the withdrawal of fuel subsidies, triggered outbreaks of rioting in which the main targets were the economically dominant ethnic Chinese minority. Following widespread looting, burning and rioting in several major cities, President Soeharto finally bowed to demands for his resignation after 32 years as head of state. The massive depreciation of the real exchange rate resulted in the technical insolvency of much of the Indonesian corporate sector. Prior to the crisis, the proportion of population living below the poverty line had fallen from 60 percent in 1970 to 11 percent in 1996. Since the onset of the crisis, this process has gone into reverse. Indonesia’s poor are especially vulnerable to the falling incomes, increasing prices, rising unemployment and underemployment brought on by these crisis-induced events. World Bank simulations suggest that poverty has increased from about 10 percent in 1997 to about 14 percent (almost 30 million people) in 1998 (World Bank, 1998b). Urban areas have been hit harder than rural areas and the people on Java appear to have been affected more than those on outer islands (Sumarto, Wetterberg and Pritchett, 1998). However, not all poor people in Indonesia have been affected badly. Some smallholder agricultural producers whose products are exported benefited substantially from the depreciation of the rupiah.

Unemployment and layoff estimates for Indonesia are very unreliable and should be treated with caution. In early June 1998 the Minister of Manpower said that unemployment could rise to 15.4 million people or 17.1 percent of the labour force by the end of 1998 (*Indonesian Observer*, 3 June 1998), while in July 1998, private economists and the World Bank put overall unemployment at 20 million (*The Australian*, 20 July 1998). ILO (1998) estimated that unemployment could rise to 15 percent of the labour force by the end of 1998. Subsequent data on actual employment do not support this statement. The 1998 unemployment rate which was calculated by the Central Bureau of Statistics (BPS) in August, is less than six percent.

Since a large proportion of manufacturing activities is in Java, the decline in manufacturing would result in significant job losses in Java, especially around Jakarta and West and East Java. According to Hugo (1998), about half of the lost jobs are thought to have come from the Jabotabek area (Jakarta and environs).

Those still in work complain of a freeze on overtime, leaving them on the Jakarta region's minimum wage of Rp 5,700 a day (worth about 60 US cents), which has not changed since April 1997. As a consequence, real wages have fallen very significantly. In agriculture, for example, there is an indication that real agricultural sector wages on Java and in selected Outer Island provinces have fallen by about 40 percent since the crisis hit in mid 1997 (Cameron, 1999). This suggests that agriculture, one of the few sectors to experience positive growth in 1998 (0.2 percent), has absorbed some labour from the non-agricultural sector, which has contracted.

The fall in labour demand also reduced the remittances received by rural households from urban relatives. In addition, some of the retrenched labourers have gone back to villages to earn a livelihood in the rural informal sectors and in agriculture, somewhat reversing the village-to-city migration trends which occurred in the previous years of high economic growth. The returning migration could impose an extra cost on rural household; there is an additional household member to support.

In the past, poor families tended to withdraw their children from school as a result of economic shocks (World Bank, 1998b). A smaller shock in 1986/1987 caused the junior secondary enrolment rate to fall from 62 to 52 percent. This evidence from a smaller economic shock suggests that the overall impacts from the current crisis are likely to be large. Initial official estimates were of a fall in enrolments of up to 24 percentage points. However, this has failed to eventuate, enrolments appear to have dropped by 5-6 percentage points. Dropout rates are higher among poorer households (Cameron, 1999).

Prices, particularly those of basic necessities such as food and medicine, have risen dramatically because of exchange rate devaluations. Because medical supplies and equipment have become prohibitively expensive, the poor, including expectant mothers, are now less likely to seek formal medical treatment, and immunisation coverage appears to have fallen. These factors, combined with the reduced ability of the poor to purchase staple foods, have raised the risks of malnutrition and micronutrient deficiencies, particularly for infants and children (World Bank, 1998b).

3. Impacts on Agriculture

Agricultural development in Indonesia during the last three decades (1966-96) has been a success story. The impressive growth performance of the sector contributed substantially to the achievement of Indonesia's development objectives: food security, low and stable prices, generation of employment and foreign earnings/savings. Indonesia is an excellent example of Mellor's theories (1966) regarding the role of agriculture in economic development.

Three decades of steady progress in agricultural development were abruptly interrupted by financial and environmental shocks. The consumer price index (CPI) for food increased by more than 50 percent between June 1997 and March 1998, compared with a 38 percent rise for the general CPI. With consumer prices of food continuing to increase, basic commodities disappear quickly from the shops as people begin to hoard. Fears of food shortages have proved self-fulfilling, triggering hoarding, and speculation, disrupting food supplies and causing shortages. Although food shortages could be supplemented by imports, the cost is prohibitive and in any case foreign exporters are refusing to accept letters of credit issued by Indonesian banks, causing trade to come to a halt (Japan Economic Institute, 1997). Frustration and anger have been directed at the largely Christian Chinese minority. In many towns and villages, the Chinese are the merchants and shopkeepers and therefore blamed for rising prices and shortages. The rejection of the Indonesian letter of credit in January 1998 had a devastating impact on food and other crucial imports. However, in February 1998, the government was able to set up financing mechanisms in Singapore to ensure crucial rice imports by using international reserves up front to pay for them.

The rocketing prices of all imported goods have hit all sectors of the economy. The poultry business, an important source of protein, is collapsing as it is heavily dependent on imported feed and medicines, which are completely unaffordable at the time of economic crisis. The poultry business is experiencing bankruptcy.

Food production has been affected by the long drought that struck the country at a most unfortunate time. The El Nino weather pattern has created a drought across much of Indonesia, causing widespread crop delay or failure. The country's main staple, rice, declined by 4 percent in 1997. In 1998, rice production is estimated to have fallen by 8 percent, the biggest single-year decline in the past two decades. The crop failure and the decline in family income will see the incidence of poverty dramatically increase. However, the impact of the drought is not evenly distributed across the country. Eastern Indonesia has been hit hardest by the El Nino drought. Since Eastern Indonesia was already the poorest region of the country, the large impact of drought and the crisis worsens an already serious problem of long-term rural poverty in the region. Widespread famine and deaths in the thousands in this region have been reported (van Diermen, 1998).

The decline in domestic food production was partly offset by an increase in food imports and diversion of secondary food crop use from livestock feed to human consumption. Table 1 presents an estimate of changes in food crop trade for the main staples during the 1990-98 period. It is shown that imports of rice, wheat, soybeans and sugar were significantly increased to offset the low levels of domestic production in 1997 and 1998.

The effect of the economic crisis has greatly increased the vulnerability of large sections of the population to food insecurity. Food prices have risen sharply, whilst purchasing power has fallen dramatically due to rising unemployment and falling real wages. Moreover, amongst the poorest sectors of the population there are now growing concerns that savings and assets are being depleted rapidly, significantly compromising their ability to cope in future (World Bank, 1998b).

The available evidence suggests that rising food insecurity in Indonesia was not a problem of aggregate food availability (FAO/WPF, 1999; Tabor, Dillon and Sawit, 1999). Food insecurity is primarily a problem of reduced incomes and erosion of purchasing power rather than aggregate production and supply. The decline in food production in Indonesia was offset by rising imports and government grain stock releases, but at a cost that increasing numbers of poor people find difficult to afford.

The economic crisis has caused an adverse effect on the food crops and livestock subsectors. However, the other subsectors (farm non-food crops, forestry and fishery), which are export-oriented and low import-oriented, have enjoyed a ‘boom’ from the economic crisis. The booming sector is gaining due to rupiah depreciation.

Table 1: Food imports, 1990-1998 ('000mt)

Year	**Rice**	**Corn**	**Soybean**	**Wheat**	**Sugar**
1990	29	- 127	475	1680	278
1991	178	292	526	2071	306
1992	634	- 81	558	2270	316
1993	0	442	752	2459	260
1994	876	1084	697	3188	128
1995	3104	894	473	3614	687
1996	1090	595	593	3820	975
1997	3582	619	779	3958	1336
1998 forecast	4200	500	700	4250	1716

Source: Tabor, Dillon and Sawit (1999)

Despite the large contraction of Indonesia’s GDP in 1998 due to the economic crisis, the agriculture output did not decline. Agriculture has been the one relatively bright spot during the crisis. Table 2 shows the agricultural growth performance. As shown in Table 2, the sectors suffering the most are food crops and livestock.

Table 2: Growth rates of the agriculture sector

Sectors	1996-97	1997-98
Farm food crops	- 2.66	- 1.15
Farm non-food crops	1.24	6.55
Livestock	4.90	- 8.25
Forestry	8.01	3.01
Fishery	5.79	6.21
Total agriculture	0.72	0.38

Source: Tambunan (1999)

4. Crisis-Induced Agricultural Policy Responses

Due to severe drought, the economic downturn and political turmoil, the price of rice in Indonesia has sky-rocketed. To ease the impact of rice changes, the Habibie government subsidised rice and made an effort to import enough to feed the poor. To ease the adjustment of the poor to the new price, the government sold imported rice to the poor at a subsidy. In July 1998 the government introduced a special market operations program (OPK). Under the OPK program, BULOG (National Logistic Agency, a publicly owned corporation) sells rice to 7.5 million low income families at a subsidised price of Rp 1,000 per kilogramme. Each family was entitled to receive ten kilogrammes of rice per month. Despite some difficulties, the program appears to have been implemented effectively to low income families using BULOG's extensive marketing network (SMERU, 1998). However, the program has had little impact on the large number of urban poor who have no official resident status. In addition, the poverty indicators from a 1996 BKKBN (Ministry of Family Planning) survey used for the OPK program did not capture urban poverty that emerged in the aftermath of the economic crisis (FAO/WFP, 1999). In October 1998, the government ambitiously announced that the OPK program would be extended to 17 million families with each family entitled to receive 20 kilogrammes per month. In addition, a supplementary food program for children and expectant and lactating women was initiated in October 1998 in conjunction with FAO/WFP. It is estimated that over one million children as well as 400,000 to 700,000 mothers could be covered by this program. The World Bank (1998b) has recommended a phasing-out of rice subsidies once the agricultural sector has returned to normal production levels.

Early during the crisis (until November 1998) fertiliser use in food production was heavily subsidised at less than half the world market price, to compensate farmers for rice prices being held down. Because some subsidised fertilisers were diverted to non-food crops or export, these in turn have led to domestic shortages of fertiliser. In November 1998, the subsidy on fertiliser was terminated.

To stimulate production and reduce the impact on farmers of the removal of fertiliser subsidies, as well as increasing the floor price of rice, the government reduced the interest rate in the subsidised farm credit program (KUT) from 14 percent to 10.5 percent per annum, and the ceiling on loans per hectare has been raised to Rp 2 million. The annual aggregate maximum value of subsidised loans has been set at Rp 6.9 trillion.

Indonesia has implemented extensive general economic reform since the 1980s, including relaxation of foreign investment regulations, reduction in many tariffs and qualitative import restrictions, a more flexible exchange rate policy, and phasing out of price subsidies for many goods. But the agriculture sector and agricultural trade had been slow and limited during the pre-crisis period. The following is a listing of some significant reforms imposed through the IMF loan agreement that have a bearing on the agriculture sector:

(a) From February 1998, BULOG's monopoly was limited solely to rice. This means its existing monopoly over the import and distribution of sugar as well as its monopoly over the distribution of wheat flour was eliminated.
(b) From February 1998, all restrictive marketing arrangements were abolished, leaving firms free to produce and export their products as they wish and as the market decides. The Indonesian Plywood Association (APKINDO) monopoly over plywood exports was eliminated, and the Clove Marketing Board was also eliminated from June 1998.
(c) From February 1998, all formal and informal restrictions to investment in palm oil plantation were removed.
(d) From February 1998, local content rules on dairy products were abolished.
(e) From April 1998, the ban on palm oil product exports was removed and replace with an export tax of 40 percent.

A further reform package which was announced by the government on 1 December 1998 includes the following features:

(a) For the first time in 30 years, the private sector is permitted to import rice.
(b) Special market operations (OPK) for rice at subsidised prices are to be targeted to those with incomes below the official poverty line.
(c) The rates of rice subsidies are to be reduced once the agricultural sector has returned to normal production levels.
(d) Food subsidies for commodities other than rice are to be eliminated.
(e) Fertiliser subsidies are to be eliminated and their prices determined by market mechanisms.

According to this reform package, the government reduced the scope of BULOG's role. Opening the economy up to greater competition will lead to increased efficiency and the dissipation of rents, such as those often associated with monopoly arrangements. A recent study (Garcia-Garcia, 1997) shows that the removal of tariff and other trade assistance measures which apply to manufacturing products would benefit the agricultural sector.

5. The Relevance of Agricultural Demand-Led Industrialisation

Agriculture cannot be regarded as a neglected sector in the Indonesian economy. Agricultural and rural development has consistently been given high priority in national development planning. The transfer of resources out of agriculture in the form of direct and indirect taxes was partially balanced by infusions of capital into the agricultural and rural sector for infrastructure development and services. The oil boom profits allowed high levels of government investment in agriculture in the 1970s and 1980s for the provision of subsidised credit to farmers, extension of irrigation infrastructure, provision of modern high-yielding rice varieties and other extension services, and rice and secondary crops market interventions. As a result, technical change has been faster in agriculture than in the rest of the Indonesian economy (Martin and Warr, 1993).

Table 3 reveals that public expenditures on agriculture in Indonesia have been relatively high by developing country standards. Between 1984 and 1988, public expenditures on agriculture in 40 developing countries averaged 7.5 percent of total budgetary expenditures (Knudsen and Nash cited in World Bank, 1992). Over the same period, Indonesia allocated 9.3 percent of its total budgetary expenditures to agriculture (World Bank, 1992). This fairly significant share of total budgetary expenditures helped maintain the momentum of agricultural growth during the period of study.

Table 3: Public expenditures on agricultural sector, 1984-88 average

Country	Expenditure as a percentage of		Agriculture GDP/Total GDP	Expenditure ratio[a/]
	Total expenditure	Agriculture GDP		
Thailand	10.5	11.9	17	0.62
Indonesia	9.3	8.4	23	0.41
Mexico	3.6	10.5	9	0.40
India	8.3	4.9	32	0.26
Nigeria	8.4	4.7	34	0.25
Philippines	5.7	2.9	23	0.25
Bangladesh	11.5	2.7	46	0.25
Turkey	1.5	2.1	17	0.09

[a/] Ratio of (Agriculture Expenditures/Total Expenditures) to (Agricultural GDP/Total GDP).

Source: World Bank (1992)

Agricultural development in Indonesia is arguably a significant determinant of growth in other sectors of the economy. During three decades of palpable economic progress, the agriculture sector, which is expanded mostly by smallholder activity, propelled the Indonesian economy through forward and backward linkages and through demand creation (Uphoff, 1999). Daryanto and Morison (1992) found that the consumption linkage effect of the induced growth in the agricultural sector represents a more potent intersectoral influence than the production linkages of agricultural growth.

Expansion of agriculture is seen as one of the main ways to overcome the crisis. There are five features of agriculture that make it an attractive option (Sunderlin 1998, Daryanto 1998a, Daryanto 1998b). First, provision of adequate basic need commodities (which include agricultural products) is a strategic priority of the government in order to preserve the conditions of stable rule and legitimacy. Second, the low proportion of imported inputs in the agriculture sector means agriculture has not been as badly affected as other sectors by the crisis. Mounting food imports and foreign exchange constraints have increasingly turned attention towards the need to expand food production. Third, the agricultural sector functions as a ‘social safety valve’, by absorbing some of the retrenched labour, as well as new entrants to the labour force unable to find work in urban areas. Fourth, the agriculture sector can make useful contributions to foreign exchange either by raising a country's earning from exports or by producing agricultural import substitutes. The drastic currency depreciation provides increased opportunities for expanding traditional crops (such as coffee, tea, cocoa beans, fishery and forestry products). Fifth, the agricultural sector is an important potential source of demand for other sectors. A growing agricultural sector will stimulate the demand for industrial products. With increasing incomes in the agricultural sector, the effective demand for domestic manufactured goods would be bolstered.

In principle, the general arguments presented above are in favour of the adoption of an Agricultural Demand-Led Industrialisation (ADLI) strategy in which agriculture is developed as a leading sector in the industrialisation process. The ADLI strategy has many positive macroeconomic consequences: it generates economic growth, employment, industrialisation and foreign exchange savings, while improving the size distribution of income and increasing the supply of basic needs goods.

A very recent study indicates that the results of Social Accounting Matrix (SAM) multiplier analysis show relatively strong macrolinkages from ADLI industrialisation, yielding a significantly larger increase in real GDP compared to that arising from industrial development oriented to either food processing or light manufacturing (Bautista, Robinson and El-Said 1999). This study uses an adjusted 1995 Indonesian SAM to reflect equilibrium conditions in a post-shock environment. Based on the 1995 Indonesian SAM, the income multipliers representing the induced effect on GDP at factor cost are as follows: 2.45 for food crops, 2.30 for non-food crops, and 2.28 for livestock; 1.93 for processed food; and 1.71 for light manufacturing. The income multipliers for agriculture-based development are significantly higher than those of two industrial sectors. An increase in income of food crops, non-food crops and livestock producers by one million rupiahs leads to an increase in GDP by 2.45 million, 2.30 million and 2.28 million rupiahs, respectively; while the same income increase in the food processing and light manufacturing sectors leads to an increase in GDP by 1.93 million and 1.71 million rupiahs, respectively. Evidently, the demand stimulus generated by agricultural growth significantly exceeds that from the expansion of that in either of two industrial sectors. This finding lends support to the hypothesis of strong macrolinkages of rising agricultural incomes.

The calculated income multiplier also provides information on the relative strength of sectoral growth linkages to household incomes. Table 4 indicates the additional incomes generated for the seven household groups from an exogenous income injection of one million rupiahs to each of the seven groups. A general agricultural expansion is seen to benefit the less affluent households - farm-worker, small-farm, non-farm low-income and low income - are associated with income multipliers that are higher than those for the three most affluent household groups - large-farm, non-farm high-income rural, and high income urban. This result indicates that income increases for the less affluent households groups represent a more potent demand stimulus to industrial growth.

It has been argued that the consumption patterns of less affluent households favour locally produced and labour-intensive goods and services, while the consumption patterns of higher income households are heavily oriented to capital-intensive products and imported goods. On this basis, the higher income households are relatively weaker and less labour-intensive linkages in the domestic economy.

Also the computable general equilibrium (CGE) simulation results indicate relatively strong macroeconomic linkages of ADLI, yielding a large increase in real GDP (Daryanto, 1999). In this study, rural and urban household group incomes were both observed to increase, but urban households gained more than rural households did. The results from the ADLI experiment suggests that policies which are successful in raising agricultural production and real income, also lead to a significant improvement in non-agricultural performance. However, the ADLI experiment is likely to benefit rural households less than urban households, owing to the deterioration in the agricultural terms of trade. The challenge for policy makers is how to devise ways that will ensure farmers a greater share of gains from implementation of ADLI strategy.

Table 4: Income multipliers by household group

Household Group	GDP
Rural households	
Farm-worker	1.673
Small-farm	1.614
Large-farm	1.569
Non-farm low-income	1.601
Non-farm high-income	1.538
Urban households	
Low-income	1.676
High income	1.428

Source: Bautista, Robinson and El-Said (1999)

6. Conclusion

Indonesia is experiencing economic and social shocks of unprecedented severity. Output has contracted, and inflation and unemployment rates have soared. The status of health and education has greatly deteriorated. These facts are sharply in contrast with the picture in the recent past when Indonesia has seen high growth, low unemployment and visible improvements in many indicators of social development. The crisis threatens to reverse many of the past achievements. However, efforts are being made by the government and international community to minimise the damage.

Despite the Indonesian economy's contraction by 13.7 percent in 1998, the agriculture sector did not decline. This draws attention to the expansion of agriculture as one of the main ways to overcome the crisis. The agricultural sector functions as a 'social safety valve', by absorbing some of the retrenched labour, as well as new entrants to the labour force unable to find work in urban areas. Farmers appear to have responded by hiring more than the usual amount of labour at lower wages.

It is time now for Indonesia to reevaluate the development strategy of the last three decades. One possible option is agricultural demand-led industrialisation. The ADLI strategy argues that agriculture can be developed as a leading sector in the industrialisation process. The case for agriculture as a motor for overall growth is enhanced by focusing on the impact which that growth in the agricultural sector has on incomes and hence on rural demand for consumer goods and services from outside the agricultural sector.

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