# GOVERNMENT INTERVENTION ON POTATO, BIG ONION, RED ONION, CHILI AND GROUND NUT PRODUCTION

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## ABSTRACT

Potato, Big onion, Red onion, Chilli and Groundnut are major import substitutes and their importation creates competitive pressures on local producers. This study analyzed the government interventions, competitiveness, level of protection given for these crops and suggested appropriate policy measures. The Policy Analysis Matrix was used in analyzing the competitiveness and degree of government interventions. Nominal Protection Coefficient and Effective Protection Coefficient were used to evaluate the effects of the local policy incentives. Domestic Resource Cost ratio was used to measure the international competitiveness. The Nominal Protection Coefficient of each crop was greater than one because all five-production systems were protected. As Chilli and Big onion production are protected their Nominal Protection Coefficients were 0.85 and 0.88 respectively while the corresponding values of Potato was1.61 , Red onion was1.38 and Ground nut was1.14 as those crops were taxed. Effective Protection Coefficients of all crops were greater than one because direct taxes on products and indirect taxes on tradable inputs have provided positive incentives to producers. Both of the above indexes indicate positive protection to producers at the expense of the consumers. Domestic Resource Cost showed that, domestic resource allocation in all crops, except in Potato, were efficient and crops are with comparative advantages. Policy interventions are necessary to raise resource use efficiency in potato production. Instead subsidizing production inputs taxing imports is appropriate for Onions. A higher scope to increase the production and profit in the future through policy interventions prevails.

**Key Words**: Import Substitute, Policy Analysis Matrix, Nominal Protection Coefficient, Effective Protection Coefficient, Domestic Resource Cost

## 1. INTRODUCTION

Agriculture sector is a vital component in Sri Lankan economy and its contribution to the Gross Domestic Product (GDP) was 17.2% in 2005. Of the total population, 80% is living in rural areas where major livelihood activity is farming. However, agriculture sector employs 30% of the national labor force, the sector has failed satisfy the food requirements of the increasing population.

Potato, an important cash crop, is grown mainly in Nuwara-eliya and Badulla districts. Chilli, and Big onion (condiments) and Groundnut (an an oil seed crop) are grown in dry parts of the country. Local producers of these crops are subjected to an increasing competitive pressure caused by the imports (Thenuwara, 1998). Annual

production of Potato, Big onion, Red onion, Chiili and Ground nut in 2006 were 75,263; 89, 648;57 ,047; 18,616 and9,831 Mt respectively and domestic production accounted for 40 %, 36 %, 57%, 44% and 66% of the domestic requirement respectively in the same year (DCS, 2007). In many cases, imported crops were cheaper than the locally produced crops and that has increased demand for imported crops at the expense of locally produced crops. Joolaie and Bidabadi (2010) pointed out that a crop to be profitable to the producer and the country, its cost of production must be lower than the income that could be earned by exporting it or money paid for importing it. Hence, the government has introduced trade policies and price incentives with the intention to protect the local producer.

Protection instruments are of direct and indirect in nature and, direct instruments include tariffs, import and export quotas, export subsidies and sanitary and phyto-sanitary restrictions while indirect instruments include exchange rate management, commodity programs, marketing supports, import subsidies and tax exemptions and long term investment assistance. Direct instruments affect commodities when they enter international trade as either imports or exports and indirect instruments are focused on domestic production (Gittinger, 1982). Different policies of the government would reduce domestic market prices causing welfare gains to consumers and welfare losses to producers. Domestic market price could go up when there are more protection policies and then, producers are well off at the expense of the consumers and thus, correct government policies are important to overcome these problems.

Import licenses issued during 1990s to import seasonally restricted agricultural commodities were removed in 1996 and by 1998, only about 3% of product lines such as rice, potato, chili, and onion were subjected to quantitative restrictions. However, high protection of these crops has continued with the use of seasonally varying tariffs and specific duties (Samaratunga et al, 2007). Furthermore, the government has provided subsidies to producers to promote local production and those interventions have raised local production. However, such interventions have failed to reduce cost of production due to the inflation. The broad objective of this study was to assess the impact of government interventions on potato, big onion, red onion, chilli and ground nut production in Sri Lanka.

## 2. EMPIRICAL LITERATURE

In policy analysis, both private and social costs and benefits should be considered. A study was conducted by Huang *et al* (2003) to evaluate sweet potato production using a policy analysis matrix showed that, there is a huge difference between market profitability and social profitability in sweet potato production. Mohantry *et al* (2002) used a modified policy analysis matrix to analyze the cotton industry and emphasized the importance of government interventions to protect the industry. Elly and Lis (2004) used the policy analysis matrix to potato production in Pangalengan and concluded that potato production is competitive. Joni (2003) analyzed the efficiency and competitiveness of soybean farming system in Jember and demonstrated that, even at the prevailed level of productivity, soybean was profitable at both private and social prices and, an import tariff would cause

inefficient use of domestic resources. Mousanejad (1996) has demonstrated though a study that, a particular area or a region of a country could be competitive for a crop though growing it all over the country is not competitive. That is certain locations could be competitive.

Pellokila *et al* (2004) studied the impact of technology improvement on the profitability of citrus farming using a Policy Analysis Matrix and showed that, citrus production enjoys comparative advantages due to technological improvements. This is a place where the government intervention is possible through the provision of modern technologies. Jolaei (1997) and Andrew *et.al* (2005), studied citrus industries in Jahrom district of Iran and Trinidad of Tobag respectively. The former study concluded that citrus production was competitive in the presence of government support while the latter concluded that, domestic and trade policy support were significant. Snouber (2006) studied competitive advantage of fresh orange and juice concentrate in Syria and concluded that, there was a substantial competitive advantage in packaging fresh orange for regional and world markets. Joko Sutrisno *et al* (2003) analyzed the competitiveness of red onion production in Central Java and showed that, Onions is a crop with comparative advantages. Above information revealed the benefits of analyzing government interventions. Samaratunga *et al* (2004) studied the South Asian trade liberalization efforts and analyzed the effect of different protective measures adopted.

## 3. MATERIALS AND METHODS

### 3.1. Data and Data Sources

Data was obtained from various sources such as the Cost of Production publications of the Department of Agriculture, Department of Census and Statistics, Sri Lanka Customs and Hector Kobbekaduwa Agrarian Research and Training Institute and Central bank of Sri Lanka.

### 3.2. Theoretical Framework

#### 3.2.1. Policy Analysis Matrix

The Policy analysis matrix is a conceptual framework developed by Monke and Pearson (1989) and augmented by Masters and Winter Nelson (1995). It is used to measure input use efficiency in production, comparative advantages and the degree of government interventions. A specimen of the Policy Analysis Matrix is presented in Table 2.

**Table 2 Policy Analysis Matrix**

| | Value of output | Value of tradable inputs | Value of non-tradable inputs | Profit |
|---|---|---|---|---|
| Private prices | A | B | C | N |
| Social prices | D | E | F | O |
| Policy transfer | G | H | I | P |

Source: Monk and Pearson (1989)

Where A is private value of output, B is private value of tradable output, C is private value of non-tradable output, D is social value of output, E is social value of

tradable inputs, F is social value of non-tradable output, G is output transfer, H is input transfer, I is factor transfer, J is private profit, O is social profit and P is net policy transfer.

Private prices are used for budgeting of farm activities and these prices are determined domestically and affected by government policies and intervention or market failure; are paid in reality by the farmers. Social values, sometimes, referred to as shadow prices, efficiency values, economic prices, opportunity cost or real prices and these are the prices that are corrected for policy distortion such as taxes and subsidies or market imperfection such as monopoly.

Social price of imported crops is their Cost, Insurance and Freight (CIF) price plus the cost of transporting those commodities to the farm gate. To calculate social prices of inputs, divided them into tradable and non-tradable components. Tradable inputs were those inputs, which could be traded in international markets, e.g. pesticides, chemical fertilizers, seeds etc. Non-tradable inputs are those inputs which could not be traded in international markets e.g. land, water, labor and capital. Social prices of tradable inputs are their CIF prices plus cost of transporting them to the domestic market. Data in the first row in Table 2 provide a measure of private profitability, defined as the difference between private revenue and cost.

$$N = A - (B+C) \quad \ldots\ldots 1$$

The second row of the matrix (Table 2) calculates the social profits. It measures efficiency and comparative advantages. The social profits were calculated as:

$$O = D - (E+F)\ A \quad \ldots\ldots 2$$

If, $S > 0$, the country uses scare resources efficiently and if it is negative (S, 0) social profits suggest that the sector is wasting resources that could have been utilized more efficiently in some other sector.

The difference between private and social revenues calculated as output transfer associated with policy interventions and that could be expressed as:

$$G = A - D \quad \ldots\ldots 3$$

The difference between private and social tradable cost associated with policy interventions were measured as input transfer and that could be presented as:

$$H = B - E \quad \ldots\ldots 4$$

That is the difference between private and social non-tradable cost explain by policy interventions and that could be calculated as:

$$I = C - F \quad \ldots\ldots 5$$

The third row of the matrix was estimated taking the difference between the first and the second rows. The difference between private and social profit due to policy intervention is called as net policy transfer and is calculated as:

$$P = N - O \quad \ldots\ldots 6$$

### 3.2.2. Nominal Protection Coefficient (NPC)

It is a straightforward measure of competitiveness. It was calculated as the ratio between the domestic prices and the international prices of a comparable grade of a commodity, adjusted for all the transfer costs such as freight, insurance, handling cost, margins, losses etc. If NPC is less than one (NPC < 1.0), the commodity is competitive and the commodity is considered as an import substitute. If NPC is greater than one (NPC > 1.0), the commodity is not competitive. This can be further divided as nominal protection coefficient on output and nominal protection coefficient on inputs. Those two coefficients were computed during this study.

### 3.2.3. Nominal Protection Coefficient on Output (NPCO)

A ratio that indicates the extent to which domestic prices of output differs from the corresponding international reference prices and this was the ratio between value of output based on private prices and value of output based on social prices. The NPCO was calculated as:

$$NPCO = A / D \quad \ldots\ldots 7$$

If NPCO > 1.0, the domestic farm gate price is greater than the international prices of output and thus the system, receive protection.

### 3.2.4. Nominal Protection Coefficient on Inputs (NPCI)

NPCI is a ratio that indicates how many domestic prices of tradable inputs differ from their social prices, and this is the ratio between private value of tradable inputs and social value of tradable inputs.

$$NPCI = B / E \quad \ldots\ldots 8$$

If the NPCI > 1.0, the domestic input cost is greater than the comparable world prices and thus the system is taxed by policy. If the NPCI < 1.0, the system is subsidized by policy.

### 3.2.5. Effective Protection Coefficient (EPC)

This is the ratio of value added in private prices to value added in social prices. The EPC can be calculated as:

$$EPC = (A-B) / (D-E) \quad \ldots\ldots 9$$

If EPC > 1.0, government policies provide positive incentives to producers and
If EPC < 1.0, the producers are not protected through policy interventions.

### 3.2.6. Domestic Resource Cost (DRC)

The most popular indicator used to compare the comparative advantage or relative efficiency is DRC. This is defined as the shadow value of non-tradable input used to produce a unit of output. This indicates whether the use of domestic factors is profitable or not and is calculated as:

DRC= (F/ (D-E)) .....10

If DRC < 1.0, use of domestic factors is socially profitable.

## 4. RESULTS AND DISCUSSION

This study treated labors and manure as non-tradable inputs and no distorting policies or market failures were observed in the market for the non-tradable inputs. Thus, the social price of non-tradable inputs was equal to the private price. Fertilizer, seeds and machinery were tradable inputs. Fertilizer application comprises 0.82 tradable and 0.18 non-tradable input cost (Samarathunga, 1984). Machinery cost includes labor cost, maintenance cost and cost of fuel. Therefore, it was divided as 0.6 tradable and 0.4 non-tradable. All seeds were assumed as imported seeds so the C.I.F. prices of tradable inputs were taken as social price.

### 4.1. Competitiveness and Efficiency of Potato Production and Imports

**Table 3 PAM of Potato Production (Rs. 000)**

| | Value of Output | Value of Tradable Inputs | Value of Non-Tradable Inputs | Profit |
|---|---|---|---|---|
| Private prices | 3,457,622 | 1,397,843 | 571,174 | 1,461,811 |
| Social prices | 1,407,391 | 890,637 | 571,174 | -54,420 |
| Policy transfer | 2,050,231 | 507,206 | 0 | 1,516,231 |

Source: Calculated by authors (2012)

Potato farming system had positive private profits and negative social profits. Positive private profit indicates that a firm is competitive under the market conditions it faces, while negative social profit indicates that the activity is not competitive under the world market conditions and thus, domestic factors are not used efficiently. In this case, the policy has significant impact on revenue, which has increased by Rs.2, 050,231,000. The positive divergence between the private and social values of tradable inputs indicates that, the world market prices of tradable inputs are less than the domestic prices. The overall effect of the policy under this scenario has positive transfer of Rs. 1,516,231,000 (Table 3). This positive transfer has caused mainly by policy protection.

### 4.1.1. Policy Indicators for Potato Production and Import

Indicators of production and import of potato are presented in Table 4. The NPCO is the ratio that measures the output transfer. NPCO value of potato is 2.51, which indicate that potato farmers received higher price than world market price because

the system has protected by government policies. On the input side, the NPCI is greater than one because, the cost of tradable inputs at private prices was higher than the cost at the social prices because inputs were taxed. Thus, the cost of tradable inputs was not reduced by the policy regime. The EPC is 5.35 and it shows that, government policies provide positive incentives to potato producers. There is no subsidy for the tradable input markets but the price of output has affected positively due to government policies. DRC is an indicator of social profit or efficiency. The DRC value of 1.48 indicates a negative social profit and shows that the potato production is not economically efficient and no comparative advantage. Therefore, resource use efficiency in potato production should be enhanced.

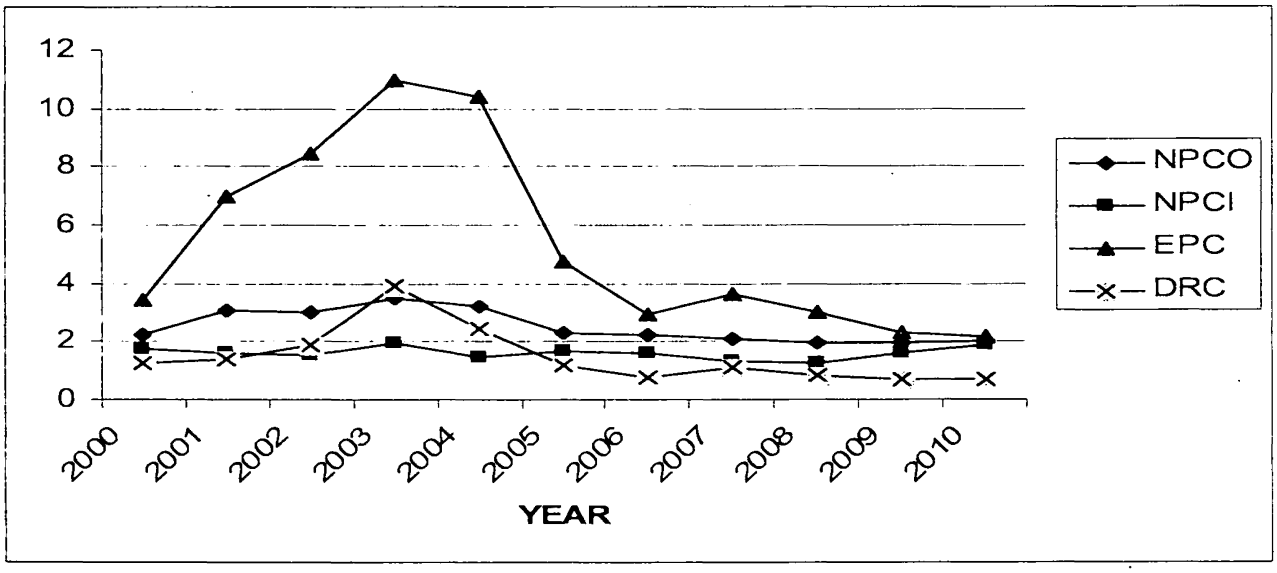
**Table 4 Policy indicators of production and import of potato**

| Indicators | Result |
|---|---|
| NPCO | 2.51 |
| NPCI | 1.61 |
| EPC | 5.35 |
| DRC | 1.48 |

Source: Calculated by authors (2012)

### 4.1.2. Changes in Policy Indicators for Potato from 2000 to 2010

Changes in policy indicators over time are presented in Figure 1. The NPCO, NPCI and DRC have changed slightly from 2000 to 2010. The EPC has increased from 2000 to 2003 and has declined thereafter. The EPC values of potato have deviated highly from its mean. The highest values of NPCI, NPCO, EPC and DRC were recorded in 2003. It indicates that both input and output prices at domestic market were higher than the international market in that year.




Source: Developed by authors (2012)

**Figure 1 Changes in Policy Indicators for Potato from 2000 to 2010**

### 4.2. Competitiveness and Efficiency of Chili Production and Imports

The result of PAM analysis shows that the chili production is privately and socially profitable because both these values are positive. Results indicate that the chili production is competitive under both domestic and world market conditions and the

domestic factors have used efficiently. There are positive policy transfers for revenue and profit. It implies that the net effect of policy intervention is increasing profitability of chili production at the farm level. The negative policy transfer between the private and social values of tradable input cost indicates that the world market prices for tradable inputs are higher than the domestic prices. The government provides subsidies to tradable inputs causing a decrease in domestic market price (Table 5).

**Table 5 PAM of Chili Production (Rs. 000)**

| | Value of Output | Value of Tradable Inputs | Value of Non Tradable Inputs | Profit |
|---|---|---|---|---|
| Private prices | 4,869,637 | 492,134 | 2,048,400 | 2,329,103 |
| Social prices | 4,487,195 | 587,340 | 2,048,400 | 1,851,455 |
| Policy transfer | 382,442 | -95,206 | 0 | 477,648 |

Source: Calculated by authors (2012)

### 4.2.1. Policy Indicators for Chili Production and Imports

**Table 6 Results of the Policy Indicators for Chili Production and Imports**

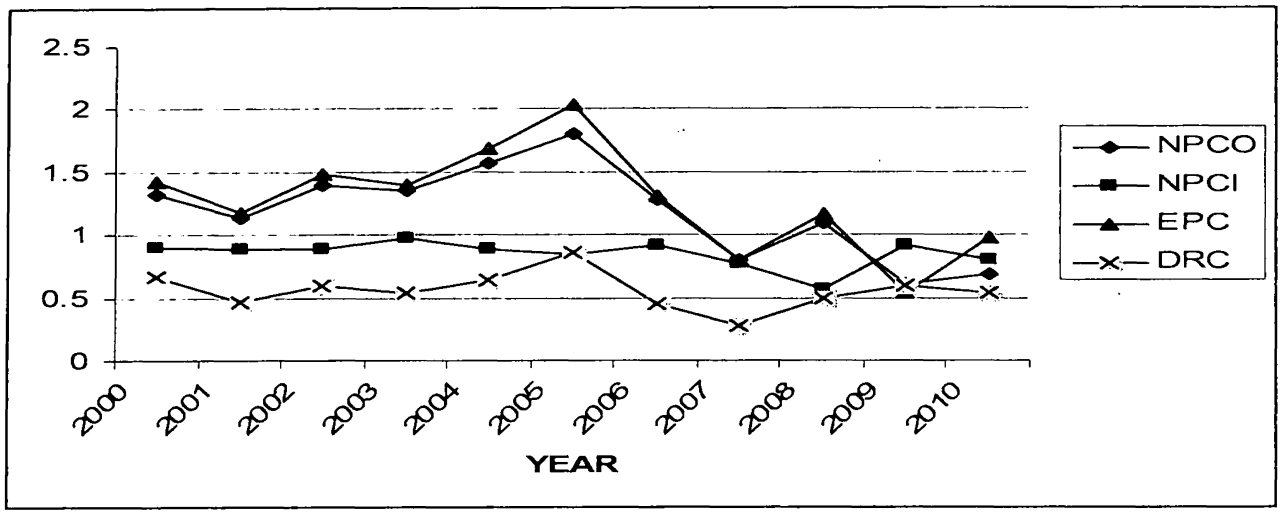
| Indicators | Result |
|---|---|
| NPCO | 1.19 |
| NPCI | 0.85 |
| EPC | 1.27 |
| DRC | 0.56 |

Source: Research study (2012)

Result of the policy indicators of chilli production and imports are presented in Table 6. The NPCO (1.19) is greater than one, suggesting that the domestic prices of chilli is greater than the international price and output price of chilli is protected and taxed by the government policy. The value of NPCI is 0.85(less than one) and it indicates that, the government policies are reducing input costs for chilli. In other word, subsidized input prices have contributed to the smaller value of NPCI. The EPC is, greater than one and it shows that, there is subsidy for chilli production and for tradable input markets. DRC is the ratio of social opportunity cost of domestic factor of production relative to the value added in the world prices. The DRC (0.56) of chilli is less than one, indicating a positive social profit. It indicates that, chilli production is economically efficient and the country has a comparative advantage in the chilli production. Under these circumstances, country is benefitted if chili production is promoted.

### 4.2.2. Changes in Policy Indicators for Chili from 2000 to 2010

The results presented in Figure 2 shows that, all indicators have fluctuated during the period from 2000 to 2010. The NPCO, EPC and DRC have showed the highest value in 2005 while the values of NPCI and DRC were less than one during the study period. This is a result of the government policies that supported the farmers by lowering input prices.




Source: Developed by authors (2012)

**Figure 2 Changes in Policy Indicators for Chili from 2000 to 2010**

### 4.3. Competitiveness and Efficiency of Red Onion Production and Imports

**Table 7 PAM of Red Onion Production (Rs.000)**

| | Value of output | Value of tradable inputs | Value of non tradable inputs | Profit |
|---|---|---|---|---|
| Private prices | 2,328,035 | 657,741 | 384,129 | 1,286,165 |
| Social prices | 1,825,516 | 488,483 | 384,129 | 952,904 |
| Policy transfer | 502,519 | 169,258 | 0 | 333,261 |

Source: Calculated by authors (2012)

According to the results, red onion production earns private profit of Rs 1,286,165,000 and social profit of Rs. 952,409,000. This indicates that, the production is competitive and the domestic factors have utilized efficiently. There are positive policy transfers for output, tradable input and profit. It indicates that the social values of output and tradable inputs are higher than their private values. Instead of providing subsidies, the government can imposes import duties on imported onion to increase domestic market prices in order to protect the farmers. A positive divergence between private and social profit implies that the net effect of policy intervention is increased profit of red onion production at the farm level.

#### 4.3.1. Policy Indicators for Red Onion Production and Imports

**Table 8 Result of the Policy Indicators for Red Onion Production and Imports**

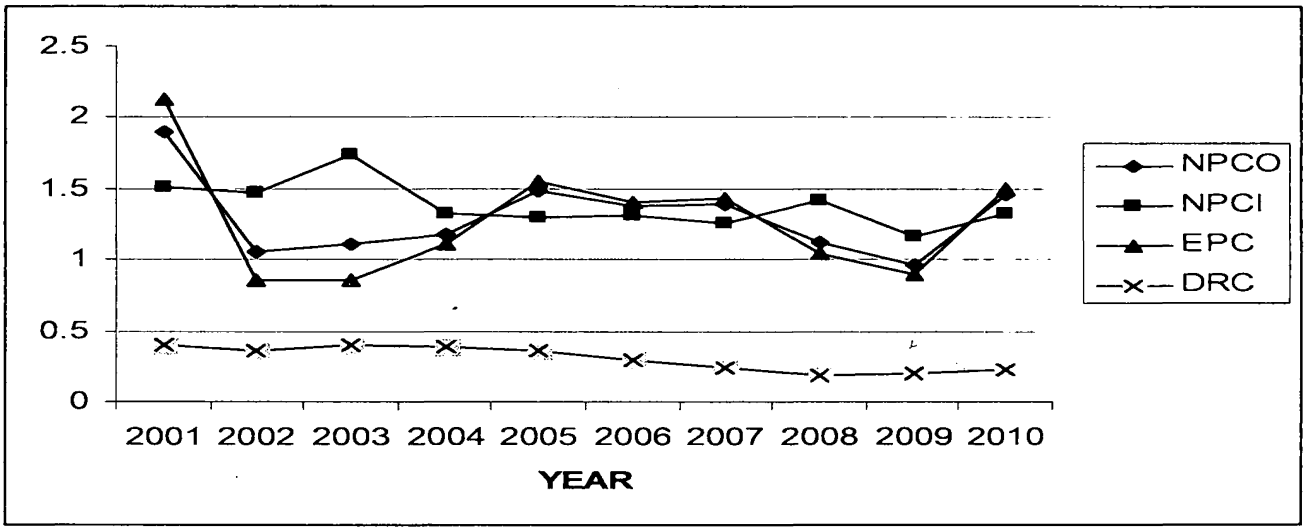
| Indicators | Result |
|---|---|
| NPCO | 1.3 |
| NPCI | 1.38 |
| EPC | 1.28 |
| DRC | 0.31 |

Source: Calculated by authors (2012)

The NPCO value of red onion is 1.3, which indicates that red onion farmers have received prices higher than international market price. This is a result of the tax imposed on imported red onion to protect the local farmers. However, NPCI is greater than one and it shows that, the government policies are not reducing input costs by input subsidies. The EPC value of 1.28 indicates that, the producers are protected through policy interventions. Value of DRC (0.31) is less than one and which means that, the production of red onion enjoys comparative advantage and usage of domestic factors are socially profitable (Table 8).

### 4.3.2. Changes in Policy Indicators for Red Onion from 2000 to 2010

Changes in indicators for red onion from 2000 to 2010 are presented in figure 3. The NPCO, NPCI and EPC have showed undulated changes during that period. The highest value of NPCO and EPC were reported in 2000 but NPCI was always greater than one. Through the protection policies, output price has increased but input price has not decreased. DRC has declined gradually and its value was less than 0.5 during 2000 to 2010 indicating that, the country has comparative advantage in red onion production.




Source: Developed by authors (2012)

**Figure 3 Changers in Policy Indicators for Red Onion from 2000 to 2010**

### 4.4. Competitiveness and Efficiency of Big Onion Production and Imports

Big onion production is a profitable crop according to private prices as well as social prices. Positive private profit indicates that a firm is competitive under the domestic market conditions. While positive social profit indicates that, the activity is competitive under the world market conditions and that indicate the efficient utilization of domestic factors. In this study, the policy has positive impact on revenue, which has increased by Rs.401, 815,000. The negative divergence between the private and social values of tradable inputs indicates that, the world market prices of tradable inputs are greater than the corresponding domestic prices. This has occurred because the government has subsidized tradable inputs. The overall effect of the policy on big onion production has made a positive transfer of Rs.428, 185,000 (Table 9). That positive transfer has caused mainly due to protection policies.

**Table 9 PAM of Big Onion Production (Rs. 000)**

| | Value of output | Value of tradable inputs | Value of non tradable inputs | Profit |
|---|---|---|---|---|
| Private prices | 1,688,190 | 155,314 | 282,132 | 1,250,744 |
| Social prices | 1,286,375 | 181,684 | 282,132 | 822,559 |
| Policy transfer | 401,815 | -26,370 | 0 | 428,185 |

Source: Calculated by authors (2012)

### 4.4.1. Policy Indicators for Big Onion Production and Imports

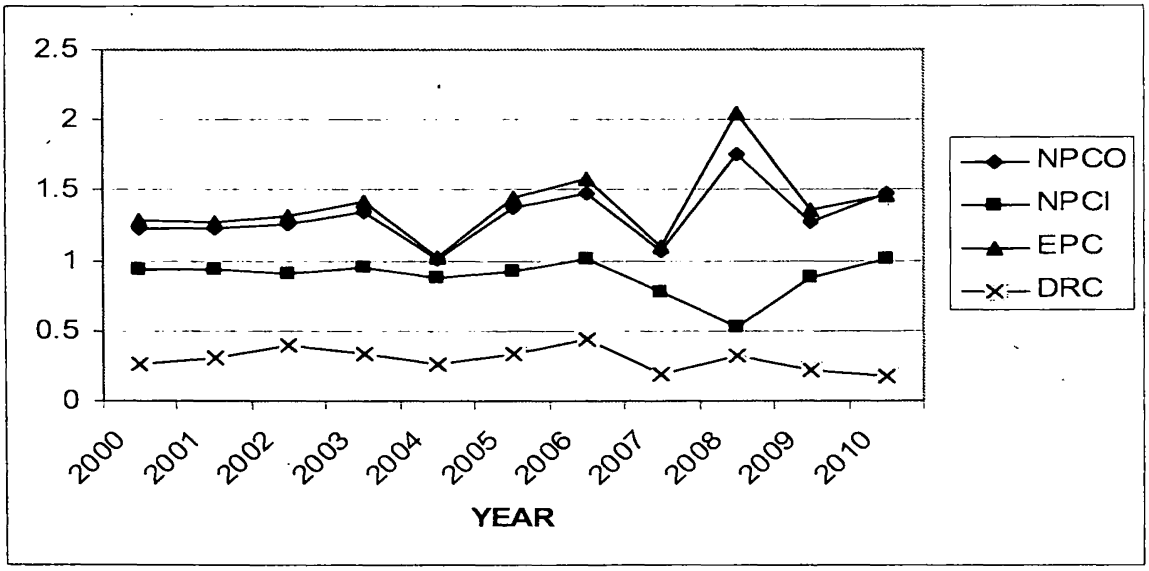
Policy indicators for big onion production and imports are presented in Table 10. The NPCO value of big onion is 1.32 and that has caused due to the output tax. The NPCI is less than one and that has occurred because the government policy has reduced the prices of tradable inputs. The EPC value of big onion is greater than one, which explains that, the government support has raised farmer's income and lowered input cost. The DRC value of 0.31 indicates that, Sri Lanka has a competitive advantage in big onion production and production is economically efficient. As a country production of big onion is profitable than importing.

**Table 10 Result of the Policy Indicators for Big Onion Production and Imports**

| Indicators | Result |
|---|---|
| NPCO | 1.32 |
| NPCI | 0.88 |
| EPC | 1.39 |
| DRC | 0.31 |

Source: Calculated by authors (2012)

### 4.4.2. Changes in Policy Indicators for Big Onion from 2000 to 2010




Source: Developed by authors (2012)

**Figure 4 Changes in Policy Indicators for Big Onion from 2000 to 2010**

Changes of NPCO, NPCI, EPC and DRC are presented in figure 4. The NPCO and EPC have gradually changed from 2000 to 2003 with fluctuations from 2004 to 2010. The NPCO and EPC were always higher than one and the highest value was reported in 2008. The NPCI and DRC have changed slightly and it was less than one from 2000 to 2010. It is possible to conclude that, big onion cultivation is protected by government policies through increasing output price and decreasing input price.

### 4.5. Competitiveness and Efficiency of Ground Nut Production and Imports

**Table 11 PAM of Groundnut Production (Rs. 000)**

| | Value of output | Value of tradable inputs | Value of non tradable inputs | Profit |
|---|---|---|---|---|
| Private prices | 492,324 | 48,948 | 185,150 | 258,226 |
| Social prices | 455,847 | 43,201 | 185,150 | 227,496 |
| Policy transfer | 36,477 | 5,747 | 0 | 30,730 |

Source: Calculated by authors (2012)

The result of PAM analysis shows that the private profit of groundnut is Rs.258, 226,000 and social profit is Rs.227, 496,000. It indicates that the groundnut production is competitive under both domestic and world market conditions because the use of domestic factors is efficient. There are positive policy transfer for revenue, tradable cost and profit. It implies that, the net effect of policy intervention has increased the profitability of groundnut production at the farm level. The positive policy transfer of Rs.5, 747,000 between the private and social values of tradable input cost indicates that, the world market prices of tradable inputs are less than the domestic prices. Instead of providing subsidies, the government has imposed import duties on tradable inputs causing an increase in domestic market prices.

#### 4.5.1. Policy Indicators for ground nut production and imports

**Table 12 Result of the Policy Indicators for Ground Nut Production and Imports**

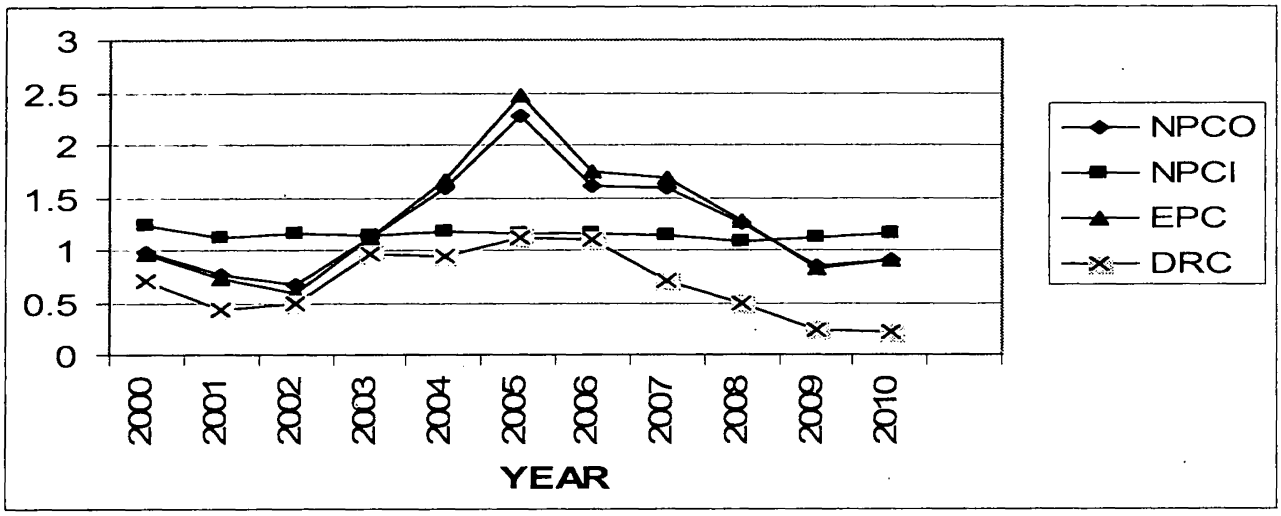
| Indicators | Result |
|---|---|
| NPCO | 1.24 |
| NPCI | 1.14 |
| EPC | 1.27 |
| DRC | 0.67 |

Source: Calculated by authors (2012)

A NPCO (1.24) value greater than one means that, due to government interventions producers are receiving a price higher than it would be otherwise, meaning a positive protection. NPCI also greater than one and it indicates that, the farmers are paying higher prices for the inputs than the world price. EPC explains the consequence of the domestic policies regarding farmers' income and input prices. The EPC value is less than one and thus it indicates that, farmer's income has

increased and input price was decreased by the government policies. DRC (0.67) is less than one and it means that the groundnut production has comparative advantages. It also indicates that the domestic resource values in production are lower than the output level measured with the world market prices (Table 12).

**4.5.2. Changes in Policy Indicators for Ground Nut from 2000 to 2010**




Source: Developed by authors (2012)

**Figure 5: Changers in Policy Indicators for Ground Nut from 2000 to 2010**

Changes in policy indicators for big onion from 2000 to 2010 are presented in figure 5. The NPCO and EPC have decreased from 2000 to 2002, have increased up to 2.27 and 2.5 in 2005, and have decreased again. NPCI value of groundnut is greater than one during the ten years considered. It indicates that, government policies have not supported producers by the means of subsidizing inputs. Except in 2005 and 2006, DRC is less than one.

## 5. CONCLUSIONS AND SUGGESTIONS

The PAM shows the effects of policies on the relative competitiveness of Potato, Chilli, Big onion, Red onion and Groundnut. Large private profit indicated that, all crops are competitive under domestic conditions. Only potato showed negative social profit and so potato is uncompetitive under international market conditions. If a product is uncompetitive, it does not mean that, product shall not be produced but it could be make competitive through policy interventions. More efforts are required to raise productivity in potato because resource use efficiency in potato production is low. A positive divergence between private and social profit implies that, the net effect of policy intervention has increased profitability in production. The positive output transfers observed in certain crops were caused mainly due to the protection provided by the government through the prevailing policies. Instead subsidizing production inputs of onions imposing a tax on imports seems appropriate.

The NPCO values were higher than one indicating that, the price structure has provided protection for growing those crops. Producer will enjoy positive gains from the increase in retail prices. In that sense, increasing retail price is beneficial.

NPCI values of chilli and big onion were less than one, which indicates that, tradable inputs used in both production systems were being subsidized.

NPCI of potato, red onion and groundnut were higher than one because those production systems were taxed. EPC values of selected crops were greater than one as government policies have provided positive incentives to producers through direct and indirect taxes and that motivates the farmer.

DRC ratio of chilli, big onion, red onion and groundnut production systems were less than one because of high efficiency in resources use. Further, those production systems had used domestic resources with a high economic efficiency. DRC ratio of potato shows that, potato production system has not used domestic resources efficiency and has depended heavily on tradable inputs. Hence, increasing resource use efficiency in potato production is necessary.

Most of the government policies do focus heavily on output price and input prices. Despite such interventions, cost of production has gone up due to the escalation in tradable input costs. Therefore, policy reforms are needed to ensure a better allocation of domestic resources in order to be comparatively advantageous.

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