Budgetary implications of Agriculture, Fuel and Electricity subsidies.

Submitted by

The Zambia Institute for Policy Analysis and Research

To

The Committee of Supply on the Estimates of Revenue and Expenditure, National Assembly

On

Friday, 23 December, 2016

1.0 Introduction

This memorandum has been prepared in response to the request by the Committee on Estimates to ZIPAR. The Committee has requested ZIPAR to comment on the **budgetary implications of Agriculture, Fuel and electricity subsidies.** With regards to this issue, the Committee would like to appreciate the costs and benefits of the application of these subsidies on the Zambian economy. The Committee further requires ZIPAR to comment on the likely effect of the removal of subsidies on the poor and to make recommendations on how to ensure that the removal of subsidies gives maximum benefits to the country without adversely affecting the poor.

This memorandum seeks to address the above issues, with the first section addressing the agriculture subsidies, the second fuel and the last section electricity subsidies.

2.0 Agriculture

2.1 Application of the subsidies on the Zambian economy

The current major subsidy programme in the agriculture sector was borne during the 2002/03 agriculture season as the Farmer Support Programme (FSP) with a view to support the small-scale farmers to have capacity to effectively engage in maize production. It also had the aim of building the capacity of the private sector to supply inputs on a commercial basis in all areas around the country. In other words, the idea was to ride on Government funds to build an active agro input supply and maize marketing market. The FSP was designed to be implemented for a short period of time with a view to weaning off farmers. In 2009, the FSP was transformed into Farmer Input Support Programme (FISP).

The FSP started on a small scale, it did not even rank highly on the sector priority list. In the Fifth National Development Plan (2005-2010), the FSP and FRA ranked number 11 and 12. Overtime, the programme has expanded in scale and its budget allocation has more than doubled. By 2015, the FISP and FRA were consuming more than half of the sector budget allocation annually. Since the inception, no farmer has graduated from the programme (World Bank, 2010) but more farmers are included every year. It is clear that the areas of priority in the sector such as Irrigation development, agriculture infrastructure, land development, livestock development, and agriculture technology have not received similar attention.

The Government's initial idea of a short-term programme seems to have changed. The focus now is to use the programme as an engine for agriculture diversification. In 2009, the seed package was increased by introducing other crops. In 2015, the Government began to implement the e-voucher system. The

expectation is that the e-voucher system will help lower the cost to the Treasury on implementing FISP as they are designed to leverage private sector participation in input distribution. Vouchers will expand inputs from fertilizer and seed to other inputs and implements such as veterinary services, drugs and other agriculture services. The e-voucher programme itself was supposed to have been launched earlier but seems to have faced a lot of resistance within the system. Government has only managed to undertake a pilot in the 2015/16 season.

Table 1: How the FISP has evolved?

	2002/03	**2004/2008**	**2008/09**	**2014/2015**
Funding allocations (million)	ZMW100	ZMW120	ZMW180	ZMW500
Participating farmers	120,000	200,000	500,000	1,000,000
Fertilizer quantity (MT)	48,000	46.000	80,000	180,000
Fertilizer bags	8 x 50kg	8 x 50kg	4 x 50 kg	4 x 50 kg
Maize seed quantity	20 kg hybrid maize		10 Kg	10 kg

Source: MAL Ministerial Statements (2002 to 2015)

As discussed earlier, the FISP started off as a short-term programme but instead has been entrenched as a key Government poverty reduction programme. Initial budget allocation was ZMW100 million and was aimed at supporting only 120,000 farmers. The programme has continued to grow in quantum and scale. In 2015, the budget allocation was five times more than the initial allocation. The number of farmers benefiting has also grown tenfold. In 2015, Government announced its intention to increase the number by another 100,000 farmers in 2016.

Government's strategy of expanding the number of beneficiary farmers was to halve the input package. Instead of farmers receiving the 8 bags of fertilizer and 20 kg bags of maize, they now receive half the quantity.

2.1.1 Assessing the Performance of the FISP

The performance of FISP in Zambia is mixed. In fact it depends on the lens that one is using to assess it. One aspect where the FISP seems to have done considerably better than the programmes implemented in the past is in the area of food production as shown in the table below.

Table 2: Maize production

Year	Metric tonnes
2004/2008	1,400,000.00
2009 /2014	2,900,000.00
2015	2,600,000.00

Over the life span of FISP, Zambia has recorded very good maize production. This is despite the region facing weather related challenges. In the 2014/15 season, the country recorded a maize surplus despite poor rainfall pattern. In fact, the country has the most exportable surplus in Southern region, surpassing South Africa, the region's largest surplus country (Kuteya and Kabwe, 2015). The real driver of the growth in maize production in Zambia is the area under cultivation. When Government transformed FSP into FISP in 2009, more beneficiaries were included. This change meant that there was more land under maize cultivation. The area under maize cultivation grew by nearly 50% from about 1 million hectares on average between 2004 and 2009 to 1.5 million hectares in 2014/15 (Kuteya and Kabwe, 2015).

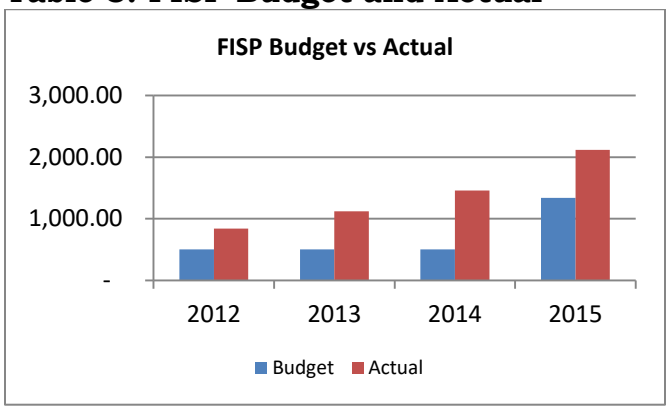
The maize yields among small scale farmers are generally low in Zambia. This has been one of the weaknesses of the FISP. The programme has contributed little to increasing small scale farmers' productivity. Over the FISP period, maize yields only increased marginally from 1.321 metric tonnes per hectare (mt/ha) to 1.750 mt/ha. The lessons from these observations are that although FISP may have limited impact on productivity, it has provided incentives for small scale farmers to increase cultivated areas under maize (Kateya and Kabwe, 2015).

2.1.2 Budget vs actual expenditure

Since 2012, the costs of implementing FISP have been escalating (Table 3). In 2012, Government allocated ZMW500 million for FISP but ended up spending ZMW340 million over and above the allocation. This has been the trend overtime with the over-expenditure increasing with time. The over-expenditure was ZMW956 million in 2014 and ZMW780 in 2013. This has contributed to the growing fiscal deficit. One explanation given for the high expenditure is

that the cost of inputs increases with depreciation of the kwacha given that the bulk of the commodity is imported.

Table 3: FISP Budget and Actual



2.1.3 Farmer contributions to FISP

What is also very important to note is that even as the programme has failed to wean off farmers, there are also some complications evolving with the programme. Initially, benefiting farmers would pay 50% of the cost of inputs. However, Government tends to cover as high as 90% of the costs. This has arisen due to the fact that Government seeks to maintain the price that the farmers have to pay even if the market prices of the commodities have increased. Government subsidy portion keeps on increasing year by year.

There are essentially three lines of inputs supply lines driving FISP so far. Of this, fertilizer is the most critical and also most politicized. Most of the basal fertilizer is produced locally by the public company, Nitrogen Chemicals of Zambia (NCZ). The company was established in 1970s as part of the then Governments industrialization programme. The company however suffered from lack of capitalization to the extent that it has been non-operation for a long time. After FSP, Government extended contracts to the plant to produce basal fertilizer as a way of reducing importation costs. Initially this was shared with two private companies. In the recent past, most of the basal fertilizer is produced solely by NCZ. Government has continued to use NCZ through a single sourcing tender even if the cost of production is said to be more than 18% of what the private sector could supply (Kapoto, Kabaghe and Zulu-Mbata, 2015).

Table 4: Private sector participation

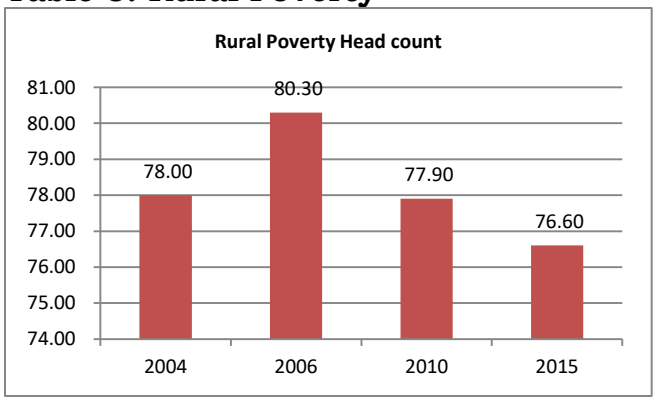
Element	Companies participating at start	Companies participating by 2015
Fertilizer (Urea) supply	- Nyiombo - Omnia	- Nyiombo - Omnia
Basal Fertilizer	NCZ	NCZ
Seed supply	Several	Several

Top dressing or Urea, is exclusively imported from Asian countries. This has turned out to be a very lucrative venture for companies involved. The contracts are awarded through competitive tender processes. However, from inception, only two companies have been awarded most of the tenders. The two companies are Omnia and Nyiombo. With regards to the seed input supply, the picture is different. Zambia has seen an evolution of a dynamic seed production industry. A number of seed companies operate in the sector and have invested in both research and production. All the seed is locally produced. The seed companies have also established input supply chains in all areas of the country.

2.1.4 Impact on poverty

ZIPAR has not conducted an independent study to review the impact of FISP, however, from the Central Statistical Office (CSO) estimation of poverty, the indication is that poverty levels have marginally reduced in rural areas. Poverty has averaged 78% between 2004 and 2015. In 2015 rural poverty stood at 77% indicating a margin drop from the 2010 level. Several other studies on rural poverty have supported the conclusion that the FISP programme has had little dent on poverty.

Table 5: Rural Poverty



FISP has been largely faulted from the perspective of poverty reduction. A number of stakeholders including Government itself have undertaken impact assessment studies that have pointed to the failure of FISP to reduce poverty. It is from this light that several stakeholders have called for a complete overhaul of the programme. The failure of FSP/FISP to move the dial on rural poverty could be attributed to several factors, including:

a) *Failure to successfully target poor farmers, with subsidized inputs going disproportionately to wealthier farmers;*
b) *Delays in input distribution;*
c) *Poor fertilizer use efficiency among beneficiary farmers;*
d) *Poor monitoring of program effects;*
e) *leakages, whereby inputs intended for the subsidy program are diverted and resold on the commercial market;*
f) *lack of an exit strategy for weaning off beneficiaries;*
g) *crowding out of private sector fertilizer purchases and suppliers (Mofya Mukaka, et al, 2014)*

2.2 Likely effects of the removal of subsidies on the poor

It cannot be denied that despite its many shortcomings, FISP has been cushioning a good number of farmers. In many ways, it acts as a safety net itself. Removing FISP completely would therefore be detrimental to poverty alleviation efforts of the country. Further, FISP has also been contributing to the bumper harvest that the country has enjoyed in the recent past. Its discontinuation without replacing it with another form of farmer support intervention could have adverse impact on the food security of the country.

2.3 Recommendations – ensuring that the removal of subsidies gives maximum benefits to the country without adversely affecting the poor

Government has not explicitly indicated that it will remove the agriculture subsidies. In fact, the 2017 budget has increased the allocation from ZMW1 billion budgeted in 2016 to ZMW2.9 billion. This implies that Government may not be intending to discontinue this anytime soon. If anything, Government has further indicated that it will disburse 100% of the FISP funds through the e-voucher system in 2017/18 agriculture season.

This notwithstanding, there is an urgent need to restructure FISP in order to realize the set objectives and have serious dent on poverty reduction. FISP has been provided uniformly across all the target beneficiaries. The application of the subsidy has not taken into account the capacity of the beneficiary farmers. Research being undertaken in the sector tends to show that the targeted beneficiaries are not at the same level of productivity. For example, studies indicated that 50% of the maize purchased by the Food Reserve Agency (FRA) is supplied by only 5 to 7% of the small scale farmers. The majority of the small

scale farmers supply only 20% of the maize to FRA. There is likelihood that many of the farmers may not be the right candidates for FISP but should instead be targeted for other social protection programmes such as the Cash Transfer Programmes and the Food Security Pack, among others. Others may in fact be ready to graduate out of these programmes and could be suitable for other programmes meant for emergent farmers.

Therefore, Government should undertake a thorough audit of the beneficiaries to determine their wealth status. This exercise should assist Government to determine the nature of support that should be given to various categories of farmers. Based on the outcomes of the audit, Government should design new programmes to suit the various categories. Those who will need to be supported by the Cash Transfer should be migrated to it and those who need to be weaned off, appropriate programmes should be introduced to facilitate the weaning off. FISP can then be reconfigured in such a way that benefitting farmers are provided with sufficient inputs to enable them grow and stand on their own.

3.0 Fuel subsidies

3.1 Application of the subsidies on the Zambian economy

Since 2007, Government has been responsible for fuel procurement. Zambia procures petroleum feedstock in the form of spiked or comingled crude oil[1], transported through the 1,705 Km TAZAMA pipeline (jointly owned by the Governments of Zambia 67% and Tanzania 33%), and refined at the government owned Indeni Petroleum Refinery in Ndola on the Copperbelt Province of Zambia[2]. Government has also been procuring finished petroleum products (mainly diesel and petrol) to supplement Indeni. Government procures the finished products through contracts given to an Oil Marketing Company (OMC) through a tender process.

The table below shows the quantity of imports in 2014 and 2015,

[1] This is a mixture of pure crude, condensate (for making kerosene and diesel) and refined products (gas oil/diesel)
[2] ZDA 2014

Table 6: Petroleum imports

	2014	2015
Feedstock (mt)	560,000	643,000
Imports (petrol/diesel)(mt)	654,000	815,000

The procurement of fuel is supposed to be self-financing. Through the ERB, a price regime is structured that all cost are recouped from the fuel pump prices including Government taxes and levies. However, Government finds itself in a situation whereby it subsidies the procurement of petroleum. The subsidies usually arise due to the change in prices mainly due to the exchange rate fluctuations. If the kwacha depreciates, the pump price of fuel is also impacted as the cost of importation is increased in kwacha terms. This is not a problem if this happens once in a while. However, the Zambian kwacha has been depreciating consistently since 2012. By 2016, it had depreciated by more than 100%, fromZMW5.7/US$ in 2012 to about ZMW10/US$ in 2016. Therefore to avoid increasing the price of fuel so frequently, Government has been forced to subsidize the shortfall in the price.

In 2013 Government spent ZMW1.6 million on fuel subsidies, which amount was not budgeted for. In 2015, the subsidy had grown to ZMW2.7 billion. Government has been spending on subsidies even if this is not provided for in the Budget. In the 2017 Budget Speech, Government indicated that it will disengage from procurement of finished petroleum products by 1st March 2017. Regarding pricing, Government further indicated that it would adjust prices based on the market conditions. This effectively means that pump prices will change with variations in the market.

3.2 Likely effects of the removal of subsidies on the poor

Under our current circumstances, the biggest challenge regarding pricing of fuel is the exchange rate fluctuations. Ideally, the pump price of petroleum products should change if there are movements in the exchange rate. This means that should we get to a situation whereby the exchange rate is unstable, then the country will experience frequent changes in the pump prices. If the kwacha depreciates at a rapid rate, then the price of fuel should also increase in a similar fashion. This has implications on the wellbeing of people. Higher domestic prices affect consumers through two channels

- *Direct effect from increase in price of fuels consumed by households*

- *Indirect effect from increase in prices of goods and services that use fuel as inputs. Indirect effect often substantial since over 50 percent of total consumption of fuel is as intermediate product*

It should also be noted that should the kwacha appreciate considerably or the price of crude drop on the world market, the price may reduce on the local market. In this way the poor are impacted positively.

3.3 Recommendations – ensuring that the removal of subsidies gives maximum benefits to the country without adversely affecting the poor

If the current pump prices are still subsidized, the fuel prices will certainly go up when the subsidy is removed. Therefore, the best way is to implement the increment gradually to avoid excessive shock that arises if the removal is done once. Otherwise, much of the factors depend on the macro economic environment, particularly, stability in the exchange rate. Further, there is also need to ensure that the regulator is well positioned to check private sector motives as the Government disengages in the procurement of fuel. In the long-run, Government should work at reducing the cost of petroleum in Zambia which is highly explained by the technical configuration of the refinery that does not respond to the current consumption pattern.

When Indeni was built, the country was consuming more of heavy fuels (such as HFO) than light fuels such as petrol and diesel. This meant that the feedstock had to contain more crude than lighter fuels. The current consumption is such that more of diesel is consumed than any other fuel. According to experts "this structural absurdity, coupled with the long distance from the coast is primarily responsible for the high cost of fuel in Zambia. Experts further argue that if Zambia imported and refined pure crude oil, the costs of the feedstock would have been much cheaper, and the resulting pump prices would have been lower. Additionally it is argued that the taxes imposed on petroleum products contribute to the high cost of fuel in Zambia.

4.0 Electricity

4.1 Application of the subsidies on the Zambian economy

The subsidization of electricity in Zambia can be looked at from two fronts – a) sub-economic tariff regime and b) emergency power importation

4.1.1 Sub-economic tariffs

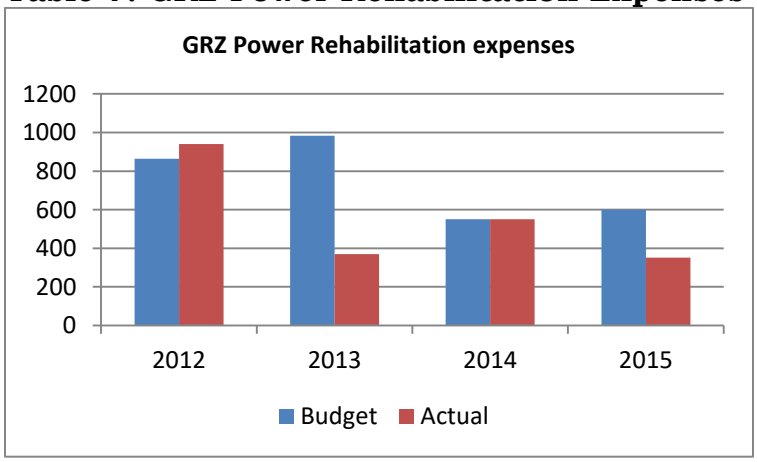
The major form of electricity subsidies could be explained from the tariff structure that has prevailed over the years. During the 1st and 2nd Republics, Government had a policy of providing cheap electricity which was viewed as a driver of economic activities. This meant that Government had to put in money to support maintenance and expansion of ZESCO's assets. After liberalization, Government policy shifted away from subsidizing the sector. ZESCO was

required to raise its own funds for maintenance and expansion of its generation capacity. However, from the 1990s after liberalization, the country experienced rapid increase in electricity demand. The country then moved from a position of electricity surplus producer to deficit positions. "In two decades, ZESCO has moved from a situation where a lack of demand growth adversely affected its financial position to one in which a lack of funds is preventing the capacity expansions required to serve rising demand"[3] .

The sector regulator, Energy Regulation Board (ERB) commissioned a Cost of Service Study (CoS) in 2007. The report revealed that the cost of producing and supplying electricity at an average of 2c/kwh was far above the tariff that was charged by ZESCO. As a result, the report recommended a migration to the cost reflective tariffs that at that time stood at 7c/kwh. A multi-year tariff application was approved by ERB in 2007 that was aimed at ensuring that ZESCO tariff is hiked to the recommended levels. The adjustments however, have not been consistent over the years and as such ZESCO tariff has not been increased to the recommended level. By 2015, the average tariff stood at 6c/kwh.

The implication of this has been that Government has had to support ZESCO in major rehabilitation and expansion works. From 2012 to-date, Government has spent an average of ZMW550 million on ZESCO power rehabilitation activities (Table 7). The argument therefore is that Government spends money on financing ZESCOs investment cost when ZESCO could raise its own funding through a cost reflective tariff. The money Government is expending could otherwise be used on other needy areas such as education and health.

Table 7: GRZ Power Rehabilitation Expenses



Source: MoF Annual Economic Reports

[3] Kapika and Eberhard, (2013)

Secondly, the country has been looking to the private sector to invest in power generation to augment the current generation capacity. This has been difficult to attain partly because of the tariff structure. It has been argued that the Independent Power Producers (IPPs) would require a tariff much higher than what is currently obtaining on the market for them to achieve a reasonable return on investment.

4.1.2 Emergency power imports

Since 2015, the country has been experiencing a severe electricity supply crisis. This arose due to the drop in the water levels particularly in the Kariba Dam. Arising from the supply deficit, ZESCO commenced a stringent load shedding regime in order to preserve water in the dams and avoid a complete shutdown of the power generation plants. ZESCO also embarked on some short-term measures that resulted in the importation of emergency power.

The importation of emergency power has come at a great cost. It is reported that the cost of this power was pegged at 18c/kwh while ZESCO has to sell it to its customers at an average cost of 6c/kw. This means that Government has to offset the balance through the subsidy. By August 2016, Government spent ZMW1.4 million on electricity subsidies. In 2016 alone, Government had spent ZMW 1 billion on electricity subsidies. These amounts were not in the budgets in 2015 and 2016.

By September 2016, Zambia's electricity generation was at 1,329 megawatts dropping from 1, 658.6 megawatts in September 2015. ZESCO has further announced that it will be able to purchase up to 270 megawatts of power from the newly completed thermal Power plant in Maamba. It is estimated ZESCO will purchase this power at a rate of 10c/mwh which rate is higher than its average tariff rate. In this light, the Minister of Finance announced through the budget speech that Government will move to full cost reflective tariff by the end of 2017.

4.2 Likely effects of the removal of subsidies on the poor

First and foremost, it is important to appreciate the fact that the majority of the household in Zambia do not have access to electricity. The majority of Zambian's (31%) who are not connected are not directly affected. The movement to achieve cost reflective tariffs simply means that energy poverty – a situation whereby household lack access to clean energy fuels will be perpetuated. The dream of achieving universal access to clean energy fuel in Zambia will be undermined as electricity access will only be for a privileged few.

The above notwithstanding, Zambia is said to have cheaper electricity tariffs compared to many other countries in the region. Yet, electricity is viewed to be expensive in Zambia locally. This is so because electricity pricing is

benchmarked in dollar terms. The implication for this is that although the cost of service could be, for example, fixed at 7c/kwh, this is not the case in kwacha terms. The country currency has been depreciating overtime. This means that each time the currency depreciates; we need more kwacha to meet the fixed dollar rate. Therefore, the loss in the purchasing power of the Zambian currency has a major impact on the cost of the pricing of electricity in Zambia.

This being the case, the households that are connected who are mainly in urban areas will experience increased cost of living due to the increase in electricity. It also means that there will be increased demand for biomass fuels such as charcoal given that much of the electricity consumption is in urban areas. People in urban households will resort to using charcoal for their cooking and heating needs.

4.3 Recommendations – ensuring that the removal of subsidies gives maximum benefits to the country without adversely affecting the poor

a) Gradual implementation

The general consensus of stakeholders regarding the implementation of cost reflective tariffs is that the ERB will implement these gradually, perhaps over a period of time. This means that achieving cost reflective tariffs over one year may not be possible. ERB should provide a feasible time frame over which this can be implemented.

Additionally, it will be important for stakeholders to appreciate the cost structure of the ZESCO. This can be done upon the completion of the cost of the new services study which has been commissioned by the ERB. Based on this study, it will be important that the new Key performance Indicators are set based on industry benchmarks and that tariff adjustments are tied to ZESCOs performance towards achieving performance targets.

b) Promote alternative sources of energy

The demand for imported power can be reduced by a vigorous promotion of energy efficiency measures. For households, Government should implement a programme to migrate cooking and heating services to alternative energy sources like Liquefied Petroleum Gas (LPG) and solar. Use of LPG should be promoted in Zambia though incentivizing supply, widening distributional channels as well as sensitizing consumers of benefits and safety measures.

c) Full liberalization of the electricity market to enable energy trading

Reforms in the sector aimed at creating an established electricity trading market should be expedited. Players in the market should be able to buy and sale electricity than is currently the trend. Today, for Dangote to sell its excess power to another company, it has to sell to ZESCO because ZESCO currently has the control of the transmission and distribution lines. Yet, Dangote can sell power directly to another company by paying ZESCO a wheeling fee to transmit power.

Therefore, access to transmission lines with nondiscriminatory rules and regulations governing the operation of the open access regime would inspire confidence in all the players that they will be treated equally. Independent power producers (IPP) need the assurance that they will have open access to transmission lines (at fair price) in order to transport their generated electricity to their customers. In this regard, Government should re-examine the electricity industry structure and declare relevant transmission lines common carriers and same should be provided for in the National Grid Code (NGC).

If the above is implemented properly, IPPs would be able to identify their own off-takers, other than ZESCO, and be able to enter into supply agreement. The issue of cost reflective tariffs in this case would be dealt with through the negotiations between the parties involved.