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# Fundamental Rights not so Fundamental? Critique of the Supreme Court Judgment in Law Association of Zambia v. the Attorney General

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*The article discusses the constitutionality of sections 5 and 6 of the Public Order Act of Zambia. The Law Association of Zambia had unsuccessfully argued in the High Court of Zambia that the sections violated section 20 (Freedom of expression) and 21 (Freedom of assembly) of the Zambian Constitution. The Supreme Court of Zambia upheld the decision of the High Court and held that the sections did not violate sections 20 and 21 of the constitution and were constitutional. This article argues that the Supreme Court decision is wrong and falls short of effectively protecting citizen's rights of peaceful assembly and expression. It argues that the Supreme Court failed to realise that section 5 (6) fundamentally operates as a limitation on the constitutional rights of citizens to peaceful assembly and expression.*

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## 1. Introduction

The Supreme Court of Zambia Judgment in *Law Association of Zambia v the Attorney General,* Appeal No. 08/2014 was on a challenge to the constitutionality of Sections 5 and 6 of the Public Order Act. The Law Association had unsuccessfully argued in the High Court that these sections violated Articles 20 and 21 of the Constitution of Zambia, and this was an appeal seeking to overturn the decision of the High Court dismissing its petition. In essence, the Supreme Court agreed with the High Court that the Public Order Act, as amended by Act No. 36 of 1996 is constitutional. The Court opined that the amendment had addressed the concerns expressed in the *Mulundika* judgment – to wit, that the police cannot deny permits to people who apply to hold a public demonstration. The Court however found that Section 5 (6) of the Act fell short of the constitutional threshold, as it does not give the police an obligation to suggest a 'reasonable alternative date in the very near future,' and that the police had used this loophole to constructively deny people their right to protest.

In this article, we argue that this judgment falls short of effectively protecting citizen's rights of peaceful assembly and expression. First, it suffers from the same weaknesses as the *Mulundika judgment* – in that it does not fully appreciate the nature of the right of assembly and the freedom of expression. Secondly, it does not adequately capture all aspects of constructive denial that are brought about by the 1996 amendment to

the Public Order Act, specifically by Section 5(6) and its lack of guidelines for the police, which makes the section fundamentally unconstitutional. The Court fails to realise that Section 5 (6) fundamentally operates as a limitation on the constitutional rights to peaceful assembly and expression.

## 2. Weakness of the *Mulundika* Judgment Replicated

The 1996 amendment to the Public Order Act goes a long way in enhancing the protection to the freedom of peaceful assembly and expression. Language in the Public Order Act empowering the police to control who can talk at the assembly, the duration of the assembly and the content that can be discussed at the assembly[1] is replaced with a notification to the police on the date, duration and location of the assembly, whether it be a static one or a demonstration/protest that follows a path.[2] However, there remains an undertone that the rights of peaceful assembly must be policed – that they are subject to the police's ability to police them and that the police can deny or cancel a permit on the grounds that the police cannot police the assembly.[3] This detracts from the fundamental nature of the right.

The right of peaceful assembly is recognised as a fundamental right worldwide. Article 21 of the International Covenant on Civil and Political Rights (ICCPR) specifies that no restrictions may be placed on the right, except those that are 'necessary in a democratic society in the interests of national security or public safety, public order, the protection of public health or morals or the protection of the rights and freedoms of others.'[4] Similarly Article 11 of the African Charter on Human and People's Rights provides that: 'Every individual shall have the right to assemble freely with others. The exercise of this right shall be subject only to necessary restrictions provided for by law, in particular those enacted in the interest of national security, the safety, health, ethics and rights and freedoms of others.'[5] As we demonstrate, there is consensus worldwide that the right to peaceful assembly and expression are fundamental to political speech. This is why they are viewed as fundamental in a democratic society, where views that may only be held by a minority may not find expression in other fora, leading to the necessity of peaceful assembly and expression within the assembly. Legal restrictions or 'clawbacks'[6] are allowed in the

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[1] Previous Section 5 (5) of the Public Order Act.
[2] Section 5 (5) as amended.
[3] This is the import of Section 5 (6) of the Public Order Act, which allows police to prohibit a public meeting because they are unable to police it.
[4] Article 21, International Covenant on Civil and Political Rights.
[5] African Charter on Human and People's Rights, 1979.
[6] R. Goodrick, *The Right of Peaceful Protest in International Law and Australian Obligations under the International Covenant on Civil and Political Rights,* see: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwiqjcSUrMbNAhWHKsAKHVIeC-cQFggcMAA&url=https%3A%2F%2Fwww.humanrights.gov.au%2Fsites%2Fdefault%2Ffiles%2FHRC_assem

interests of keeping the peace, protecting private property, or respecting other people's rights (not just sensibilities) and only in those interests.

Something that is immediately noticeable is that Section 5 of the Public Order Act, as amended, does not meet this threshold set out by the ICCPR. The language of Section 5 does not limit the restrictions to the freedom of assembly to only those 'necessary' for national security or public safety, public order, health or morality. It is even more telling that the right of assembly in Article 21 (2) of the Constitution conforms to the ICCPR:

> (2) Nothing contained in or done under the authority of any law shall be held to be inconsistent with or in contravention of this Article to the extent that it is shown that the law in question makes provision –
> (a) that is reasonably required in the interests of defence, public safety, public order, public morality or public health;
> (b) that is reasonably required for the purpose of protecting the rights or freedoms of other persons;

Section 5 (6) of the Act simply states: 'Where it is not possible for the Police to adequately police any particular public meeting,' the police may inform the conveners of their inability and suggest an alternative date. What is conspicuously missing from this Act, is that any restrictions to the freedom of assembly must satisfy the conditions set out in Article 21 of the Constitution. The inability to police a public meeting is not one such restriction, in and of itself. It should be shown that should the meeting go on without police presence, there is a probability, more than a mere possibility, that there would be a breach of the peace as a result. The test is not subjective, nor one entirely for the police. It must be based on objective criteria. This is the tenor of the Public Order Act of the UK, which despite having similarities with the Zambian Act in the requirement of notices to the police for public processions and assemblies, takes a more serious view of the police power to stop a procession:

> 12 Imposing conditions on public processions
> (1) If the senior police officer, having regard to the time or place at which and the circumstances in which any public procession is being held or is intended to be held and to its route or proposed route, reasonably believes that —
> (a) it may result in serious public disorder, serious damage to property or serious disruption to the life of the community, or
> (b) the purpose of the persons organising it is the intimidation of others with a view to compelling them not to do an act they have a right to do, or to do an act they have a right not to do,
> he may give directions imposing on the persons organising or taking part in the procession such conditions as appear to him necessary to prevent such disorder, damage, disruption or intimidation, including conditions as to the route of the procession or prohibiting it from entering any public place specified in the directions.[7]

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bly_Goodrick.doc&usg=AFQjCNHysp6f_ekqmHyT_qAUNMEcwqLQ8g&sig2=9YmMhfi91FqIvpQZLkC4Kw&bvm=bv.125596728,d.ZGg

[7] Public Order Act (UK), 1986, s. 12.

Such an understanding stems from the fact that the right to peaceful assembly is indeed a fundamental right; and one that does not need the midwifery of the police. The police are allowed to step in where the assembly is, for serious reasons, suspected of not being peaceful. The police cannot prohibit an assembly solely on the ground that no permit was issued for the assembly. The assumption of the automatic need of a permit for assembly in the Public Order Act is therefore unwarranted and unconstitutionally abrogates the right to peaceful assembly.

The mistake here is not just one for the legislature, though. The Supreme Court, both in the *Mulundika* case and the *LAZ v AG* case, has shown a somewhat short-sighted view of the fundamental nature of the right to peaceful assembly. In *Mulundika,* the provisions being subjected to constitutional scrutiny were so egregious, and the Court was largely cognisant of this. However, it failed to recognise that the power to issue directions must be constrained to the conditions in the Constitution, those of public peace, morality and the protection of other people's property and rights. The Court proceeded on the assumption that police oversight into the exercise of this right was necessary:

> Although not guided by concern for the administrative consequences, we readily accept and acknowledge that there are many regulatory features in CAP 104 which are perfectly constitutional and very necessary for the sake of public peace and order. This was common cause. For instance, there are subsections authorising the issuing of directions and conditions for the purpose of regulating the route of a procession; the date, place and time of an assembly or a procession; their duration and any other matter designed to preserve public peace order. These regulatory functions of the police can only be in the highest interest of peace and order. Though therefore the police can no longer deny a permit because the requirement for one is about to be pronounced against, they will be entitled – indeed they are under a duty in terms of the remainder of the Public Order Act – to regulate public meetings, assemblies and processions strictly for the purpose of preserving public peace and order.[8]

In the Judges' minds, peaceful assembly could not be peaceful without police presence.

In *LAZ v AG*, the judges harboured the same misconception. In (rightly) upholding the requirement to give notice to the Police of a public meeting, they wrongly attributed it to the need for regulatory function of the police over assemblies: 'In this regard, we hold the view that the requirement for notice is necessary, as this is the only way that the Police can perform their regulatory function and maintain law and order in our society.'[9] The flaw in the conception of the fundamental nature of the right is shown, in that the Court sees no need of presenting an evidentiary burden upon the police to show that they must regulate a public assembly. Regulation is seen as a foregone conclusion, a necessity for the enjoyment of a fundamental right. This, therefore, informs the overlooking of the power granted to the police allowing them to cancel a public meeting and suggest a date in the near future

[8] *Christine Mulundika & 7 Others v The People,* 1995 S.J. As per Ngulube, CJ, reading for the Court.
[9] *Law Society of Zambia v the Attorney General,* Appeal No. SCZ/8/333/2013.

because they cannot police (regulate) it adequately, without necessarily showing that the inability to regulate would result in a breach of the peace. This latter approach, of considering whether the police should regulate at all in the interests of peace is seen in the EU case of *Éva Molnár v Hungary*.[10] In interpreting Article 21 of the Convention for the Protection of Human Rights and Freedoms, which is identical to Article 21 of the Zambian Constitution, the Court held that there was no assumption that the policing of a peaceful assembly was required by the Constitution. Thus, the breaking up of a spontaneous peaceful assembly, for which notice could not be given, would be an unnecessary abrogation of the right to peaceful assembly, the Court stated:

> However, in special circumstances when an immediate response might be justified, for example in relation to a political event, in the form of a spontaneous demonstration, to disperse the ensuing demonstration solely because of the absence of the requisite prior notice, without any illegal conduct by the participants, may amount to a disproportionate restriction on freedom of peaceful assembly (...) It is important for the public authorities to show a certain degree of tolerance towards peaceful gatherings if the freedom of assembly guaranteed by Article 11 of the Convention is not to be deprived of all substance.

The failure of the Supreme Court to appreciate the fundamental nature of the right to peaceful assembly further blinds it to another flaw in Section 5 (5) (e) of the Public Order Act. This section outlines one of the conditions that the conveners of the public meeting have to meet, and which the police may rely upon to justify the cancelation of a planned public meeting. It reads as follows: 'that the public meeting, procession or demonstration shall not create a risk to security or public safety, a breach of the peace or disaffection amongst the inhabitants of that neighborhood [emphasis added].' This highlighted provision in effect gives the police the power to regulate the content of the opinions to be expressed at a public meeting. Had the Court appreciated the fundamental nature of the freedom of expression, it would have been clear that such power is incompatible with the inalienable stature of a fundamental right. While a Constitution can limit the kinds of expression that are not protected – for example, the Constitution does remove certain kinds of speech like libel and defamation[11] – no such restrictions can be given for unpopular views. The freedom to air unpopular views is the very essence of the freedom of speech and assembly. Two American cases illustrate this. In *Edwards v South Carolina*,[12] the US Supreme Court held that a State could not 'make criminal the peaceful expression of unpopular views.' In *National Socialist Party v Village of Skokie,*[13] the Supreme Court upheld an Illinois Supreme Court decision that would not ban the Nazi Party from organising a peaceful protest because of the content of their message. Closer to home, the

[10] Application no. 10346/05, ECHR (7 January 2009).
[11] Article 21 (3) (b), Constitution of Zambia.
[12] 372 US 229 (1963).
[13] 473 US 43 (1977).

Kenyan High Court, in a recent case, underscored the important part that the freedom of assembly plays in the ventilation of unpopular views:

> It may very well be that the opinion or view is an unpopular one with others but yet again, freedom of assembly merely provides an alternative form of participating in democracy to those who may be disenchanted and uninspired in one way or another. A minority may, for example, feel disappointed by their own failure to convince the majority. The alternative avenue for expressing their view would simply then be through demonstrations and picketing, even though the minority may still not have their way.[14]

As the Harvard Law Review in an article analysing the regulation of demonstrations in the United States noted:

> Often a demonstration has significant publicity advantages over more conventional media of expression since it can attract extensive news coverage and widespread public interest; and for persons unpopular or unknown to the general public, or without financial resources, a demonstration may be the only effective means to publicize a message or reach a desired audience.[15]

These views are in stark contrast to both the Act and the Zambian Supreme Court's judgment in that the 'disaffection' of locals in the locale of a planned protest is not grounds enough for the abrogation of a right, no matter how odious the opinion that causes the disaffection. The importance of these decisions is that the freedom of expression and assembly are cornerstones of democracy, as they ensure that minority, unpopular views are not drowned by the hum of the majority. The police have an obligation to protect people expressing unpopular views. That the Supreme Court fails to apprehend this is truly unfortunate.

### 3. Unfettered Discretion of Police

The amended section 5 outlines numerous conditions for the holding of an assembly and the applicants have to wait for police authorisation before they can proceed to hold an assembly. Section 5 gives the police the absolute power of determining whether or not an assembly, meeting or procession should take place. The Supreme Court did rightly state that the right to assembly cannot be denied. However, the Court fails to identify that the right can still be abrogated if the police are allowed to cancel a public assembly without proper guidelines, as established by the Constitution. The Court seems to think that it is clear from the Act that the reasons to be given for the cancellation of a peaceful assembly are only those in the Constitution. However, as already illustrated, the language of Section 5 of the Public Order Act expands the reasons for cancelling an assembly to beyond those in

[14] *Hon. Ferdinand Ndung'u Waititu & 4 others v The Attorney General & 9 Others*, Petition No. 169 of 2016, as per Onguto J.
[15] 1967 HLR 1773.

the Constitution – those of maintaining public peace and protecting other people's rights and properties. In fact, the language of the Act does not even limit the reasons why the police can cancel a planned assembly – it only states that they can cancel an assembly out of an inability to police it. Apart from the foundational arguments already made, this scenario is clearly not envisaged by the Constitution – that an individual, whoever that might be, should be made the sole and unquestionable determinant of what is reasonably justifiable for the entire citizenry of Zambia. The Constitution does not in any way intend that the enjoyment of rights and freedoms enshrined by it in articles 20, 21 and 28 be conditioned or contingent on the opinion of an official of the executive arm of government. A law which confers discretion on a public official without indicating with sufficient precision the limits of that discretion does not satisfy the quality of the 'law' contemplated in article 21 by the requirements of prescribed law.

This same view obtains in the Ghanaian Supreme Court. It held in *New Patriotic Party vs. Attorney-General* that 'restrictions as are provided by article 21(4) of the 1992 constitution may be necessary from time to time and upon proper occasion. But the right to assemble, protest or demonstrate cannot be denied.'[16] The Ghana Supreme Court nullified section 12 (a) of the Public Order Decree,[17] which gave police officers unfettered discretion to stop and cause to be dispensed any meetings or processions in any public place in contravention of sections 7 and 8; and section 13(a) which made it an offence to hold such processions, meetings and public celebrations without permission. Similarly, the Court of Appeal in Nigeria, in *Inspector-General of Police v. All Nigerian Peoples Party and Others*, after holding the permit system under the Nigerian Public Order Act unconstitutional stated: 'constitutions should be interpreted in such a manner as to satisfy the yearnings of the Nigerian Society.' The court observed:

> Public Order Act should be promulgated to compliment section 39 and 40 of the constitution in context and not to stifle or cripple it. A rally or placard-carrying demonstration has become a form of expression of views on current issues affecting government and the governed in a sovereign state. It is a trend recognized and deeply entrenched in the system of governance in civilized countries. It will not only be primitive but also retrogressive if Nigeria continues to require a pass to hold a rally. We must borrow a leaf from those who have trekked the rugged path of democracy and are now reaping the dividend of their experience.[18]

In re *Munhumeso,*[19] the Zimbabwe Supreme Court held that powers placed in the hands of the police are arbitrary where (a) there is no criterion to be used to regulate the authority in the exercise of its discretion, (b) the regulating authority is not obliged to take into account whether the likelihood of a breach of peace could be averted by attaching

[16] 1992-93 GBR 585-(2000) 2HBLRA, 1.
[17] Public Order Decree, 1972(NRCD).
[18] (2) 18 NWLR 457 C.A.
[19] 1994(1) ZLR 49(s).

conditions such as time, duration and route, and (c) it allows refusal of a permit even on the slightest possibility of breach of peace. This approach is supported by case law elsewhere in the world. In the US case of *Shuttleworth v. Birmingham,*[20] where by legislation the city commission has been granted power to refuse permission for a procession on such vague criteria as 'public welfare, safety, health, decency and public morals', the Court held that such a power created an avenue for arbitrariness. It struck down the legislation. Similarly, in *Gregory v. Florida*[21] a statute which gave the police almost unlimited discretion to decide whether or not demonstrators had committed a 'diversion tending to a breach of peace' was declared an unconstitutional interference with the freedom of assembly. In *Shuttleworth*[22] the Court stated that the test required for the restricting law is an objective one and should not depend on the subjective view or opinion of a police officer.

The lack of a precise standard for the police to abide by when considering whether to abridge the right to peaceful assembly is therefore particularly damning. Unlike the judges in *Mulundika*, it is contended that this makes Section 5 (6) of the Public Order Act open to arbitrary enforcement, as the police are not required explicitly by the Act to justify that their 'inability to Police' a planned public meeting or demonstration will lead to a breach of peace, should the planned meeting go on without police supervision. This is contrary to Article 21 of the Constitution, and is not justifiable in an open and democratic country, as has been established by the review of case law from other jurisdictions.

## 4. Conclusion

The Supreme Court erred in finding that the only way Section 5 (6) of the Act offended the Constitution is by not providing for a strict timeline for the police's postponement of a planned meeting. In doing so, the Court validated the untenable situation where the police, in conforming to the Act, do not have to justify (implying an evidentiary burden) that a lack of police supervision of an event would probably lead to a breach of the peace. In addition, they can cancel a planned meeting because of the potential of the planned protests offending the sensibilities of the local residents – which in essence refers to the police licensing the content of the message of the protest. The gravest error, however, lies in the Court not apprehending the inalienable and fundamental nature of a fundamental human right. The Court sees the midwifery of the right to peaceful assembly by the police as a foregone conclusion, a necessary regulatory function.

[20] (1969) 394 US 147.
[21] (1969) 394 US 111.
[22] Supra note 17.

# Coal Power in Zambia: Time to Rethink

*Prem Jain*

*(University of Zambia)*

*Zambia has until recently relied almost 100% on hydropower for electricity generation. The first coal power plant in Zambian history was commissioned recently in 2016/17. An unprecedented power shortfall in 2016 prompted the Zambian government to diversify its energy sources by planning to go into solar and increased coal power. Coal causes high levels of pollution, degrades the environment, damages people's health and causes climate change. Solar and other renewable sources of energy are clean. The cost of power from renewable energy is now competitive with that of coal power. Coal power is on the decline worldwide and renewable power is on the increase. Global climate change policies will become more stringent and coal will have no place in a sustainable energy future. Zambia therefore needs to rethink its policy of increased coal power.*

## 1. Introduction

Zambia has historically relied heavily on wood fuel (firewood and charcoal), which accounts for about 70% of its total energy consumption. Electricity accounts for about 20% of the total energy mix. Only about 25% of the overall population and 5% of the rural population has access to electricity. Since independence in 1964 until recently, Zambia relied almost completely on hydropower for electricity generation, mainly from the three hydropower plants in Kafue Gorge, Kariba North and Livingstone, with installed capacities of 900 MW, 600 MW and 108 MW, respectively. Having been in existence since 1908, Livingstone is the oldest power plant in Zambia, followed by Kafue Gorge and Kariba North which were commissioned in 1973 and 1976, respectively. The total installed capacity in Zambia remained static at 1,650 MW for three decades until 2009. Low economic growth during the 1980s and 1990s led to nearly stagnant electricity consumption, below the installed capacity. This led to complacent thinking that Zambia had abundant electricity. Electricity tariffs were highly subsidised and non cost-reflective. No new power plants were set up, as they did not make economic sense in this scenario.

## 2. Meeting the Escalating Power Demand

Electricity is at the core of all economic activities. Increased economic growth during the past two decades has resulted in rapidly escalating demand for electricity in Zambia. This

prompted the upgrading and extension of existing power plants. The capacity of each of the six units at Kafue Gorge plant was upgraded from 150 MW to 165 MW i.e. from a total of 900 MW to a total of 990 MW in 2009. Subsequently, the four units of 150 MW each at Kariba North were upgraded to 180 MW in 2012, pushing the total generating capacity from 600 MW to 720 MW. An extension was done by adding two more units of 180 MW each in 2013/2014, taking the total installed capacity at the Kariba North to 1,080 MW. In a joint venture between Tata Power and ZESCO, an additional 120 MW of hydropower was commissioned in 2016 on the Itezhi-Tezhi dam.

As the demand for electricity came to outstrip capacity, the country started looking into other sources of energy. A 80 MW Copperbelt Energy Corporation (CEC) gas turbine (used as stand by) and 50 MW heavy fuel oil (HFO) based power plant at Ndola Energy commissioned in 2014 are among the first fossil fuel based plants in Zambia. Another 57 MW HFO plant by Ndola Energy was commissioned recently in 2017.

The first coal power plant in the Zambian energy sector came with the commissioning of a total of 300 MW of coal power during 2016/2017 at Maamba, in two stages of 150 MW each. The power plant is a joint collaboration between Nav Bharat of India and Zambian utility ZESCO, which has a power purchase agreement to buy power at an average tariff of about $10 cents/kWh.

## 3. Acute Power Deficit, Impacts and Mitigation

The low rainfall in Zambia during the 2015/2016 season, leading to much lower hydropower generation, exacerbated the creeping power shortfall and caused unprecedented massive and continued power outages throughout the country during 2016. The impact was severe and immediate. Industries, including the mining industry which has been the backbone of the Zambian economy, suffered heavily, as did household consumers. Use of high-cost and polluting diesel generators skyrocketed, costly power imports stretched government resources and depleted foreign exchange reserves, and the national GDP growth plummeted from around 7% to 3.4%. This was a major wake up call.

Stung by the severe impacts of power shortfall during 2015/2016, the government moved swiftly to address the issue. An immediate mitigating measure was to import power from various sources, which included very costly diesel power. This cost the nation hundreds of millions of dollars annually. In order to mitigate power shortfalls and reduce its vulnerability to rainfall dependent hydropower, the government of Zambia not only embarked on additional hydropower projects, but also expedited the exploitation of new sources of power, as well as measures to attract private investors into power generation.

### *3.1 More Hydropower*

Hydropower has long been the mainstay of Zambian electricity generation. The nation boasts over 6,000 MW of potential hydropower, of which less than half is currently

exploited. It is unsurprising to look towards exploiting some of the remaining hydropower potential. A number of initiatives in this direction have been taken. This includes a 750 MW hydropower Kafue Gorge Lower (KGL) power plant, which started construction in 2015 and is projected to be completed in 2019 (http://www.power-technology.com/projects/kafue-gorge-lower-kgl-power-station/). KGL will be the third biggest power plant in Zambia. Its total cost including financing is $2 billion. It is being developed under the public private partnership (PPP) model on Build, Own, Operate and Transfer basis between ZESCO and Synohydro Corporation of China. The project is being financed by the Zambian government and foreign financial institutions, which include Exim Bank of China.

Another important initiative taken by the government of Zambia is the construction of the 2,400 MW (1,200 MW each for Zambia and Zimbabwe) Batoka Gorge hydropower plant to be located 54 kilometres downstream of the Victoria Falls. The governments of Zambia and Zimbabwe have appointed the African Development Bank (AfDB) in April 2017 as lead coordinator for the project, which is estimated to cost $6 billion (http://www.hydroworld.com/articles/2017/04/afdb-named-lead-coordinator-for-2-400-mw-batoka-gorge-hydropower-project-in-africa.htm). The construction is expected to begin in 2017/2018. A 1,200 MW hydropower plant on the Luapula River and a smaller 86 MW hydropower plant on the Lusiwasi River are other projects on which government is working, in addition to several other initiatives on mini hydropower projects.

### *3.2 Solar Power*

For the first time Zambia through the Industrial Development Corporation (IDC) teamed up with the World Bank Group to embark on a new Scaling Solar Program, which is meant to make it easier for governments to quickly procure and develop large-scale solar power projects with private financing. Zambia has signed an agreement with the World Bank Group to develop a total of 600 MW solar power in three stages. In Round 1 in May 2016, successful auction for 2 x 50 MW was held. French developer Neoen S.A.S. and American solar power company First Solar were successful at a bid price of $6.02 cents/kWh (http://www.idc.co.zm). They have signed a 25-year power purchase agreement (PPA) with the national utility ZESCO to sell power at this cost, which will remain fixed for the duration of 25 years. Italian developer Enel Green power was the other winner at a cost of $7.84 cents/kWh. These PPAs are said to be the lowest prices for solar power in the whole of Africa (www.idc.co.zm).

IDC has embarked on Round 2 of the Scaling Solar program in Zambia, by inviting Expressions of Interest in March 2017 for 150 MW – 250 MW solar power. Later in 2017, Round 3 will invite bids for the remaining 300 MW. Since utility scale solar power can be deployed in a much shorter time of about one year from the start of construction, this would mean that Zambia should have a total of 600 MW of commissioned solar power by

2019. This will undoubtedly be a significant addition to its energy mix, at a very favourable cost.

*3.3 More Coal Power*

At a time when Zambia was craving to get power from any source, the commissioning of Maamba coal-fired power plant in 2016/2017 was a welcome development, as it relieved the country from the most severe load shedding in its history. Without this addition to the national grid, the power outages would have been of longer duration and the bills for power imports much higher. By providing the country with a diversified base load power at a critical time, the 300 MW Maamba coal power plant marks a milestone in Zambian electricity generation history.

Zambia now plans to produce more power from coal using its vast coal reserves in Maamba collieries. The capacity of the Maamba coal plant is planned to increase from the current 300 MW to 600 MW and further to 900 MW to meet the escalating power demand in the country. Additionally, another coal power plant is planned by EMCO Energy Zambia, a subsidiary of the India based EMCO Energy, with a total capacity of 600 MW in two phases of 300 MW each in the same region. The plant is nearing financial closure and is expected to be completed by 2020. More coal power plants are on the cards. Recently, Zambia signed a treaty with Mozambique for the setting up of a 1,200 MW coal power plant in the coal-rich province of Tete, to bolster electricity supply to both countries. It appears Zambia is fully on path to exploiting coal power for electricity generation to add to its arsenal of power sources.

*3.4 Moving Towards Cost-Reflective Tariffs*

The total installed power capacity in Zambia remained static during the 1980s and 1990s at about 1,650 MW and electricity tariffs were low compared to their cost. The need to move to cost reflective tariffs was recognised and echoed on various forums including the SADC ministerial conferences, but did not come into practice. At the 34th Meeting of SADC Energy ministers held in Sandton, Johannesburg on 24 July 2015, it was noted that so far only Namibia and Tanzania had reached cost reflective tariffs. The ministers readjusted the time frame of their previous decisions and reaffirmed their commitment to ensure that the SADC region reaches full cost reflective tariffs by 2019 (http://www.gov.za/speeches/34th-meeting-sadc-energy-ministers-24-jul-2015-0000).

The acute power shortfall of 2015/2016 proved to be a blessing in disguise, as it expedited government's resolve to move to cost reflective tariffs, which were implemented in May 2017. This measure would help to attract much needed private sector investment in the power sector.

## 4. Merits and Demerits of Different Sources of Power

While it is legitimate for Zambia to meet its current power demand through additional power sources, there is need for the country to be conscious of long-term sustainability, by looking holistically at economic, social, health and environmental implications.

### *4.1 Cost*

Cost is an important parameter to be considered when making a choice on the source of power. The cost of renewable energy (solar and wind) has come down dramatically in recent years, so as to enable these sources to compete with conventional energy sources, such as coal and hydro. The average cost of electricity from Maamba is about $10 cents/kWh. On the other hand, the two recent successful bidders for solar power will sell electricity to ZESCO at $6.02 cents/kWh and $7.84 cents/kWh over a period of 25 years without any escalation of costs.

In order to provide a comparison of costs in the region, levelised cost of electricity (LCOE) from Escom's coal-fired power plants in South Africa is estimated at R1.05/kWh from Medupi coal power plant and R1.16/kWh from Kusile coal power plant. The cost of negative health effects and other cost externalities of coal-fired power generation are not included in these costs (http://www.ee.co.za/article/understanding-cost-electricity-medupi-kusile-ipps.html). On the other hand, the average price paid by Escom in Bid Window 4 is R0.69/kWh for wind energy and R0.87/kWh for solar photovoltaic (PV), making renewable energy a clearly cheaper option.

The capital cost of coal power plants is essentially unchanging over time, whereas the cost of renewable energy continues to fall. Therefore, renewable energy would remain preferable or at least competitive on the basis of costs alone. Another advantage of solar power is the rapidity with which it can be deployed. The time to commission a solar power plant is only about one year compared to five years for a coal or hydropower plant.

### *4.2 Social and Environmental Burden*

Coal is known to be a highly dirty fuel which causes a lot of pollution. It is a known health hazard (http://www.catf.us/resources/publications/files/Dirty_Air_Dirty_Power.pdf). It injures human health at every stage of its life cycle – during mining, transportation, storage, burning and waste disposal. It is known to cause chronic health problems amongst coal miners. Communities near coal mines are adversely impacted by mining operations. During burning coal produces smog, soot, acid rain and other toxic emissions which adversely impact vital human organs like respiratory, cardiovascular and nervous systems. The storage of post-combustion harmful wastes from coal power plants also threatens human health.

Countless studies and reports in different parts of the world highlight the damaging effects of pollutants due to the burning of coal (American Lung Association, 2011). Chinese

cities are among the most polluted in the world and coal pollution is the biggest culprit. Dense smog often blankets cities like Beijing, forcing schools to shut down, people to wear masks and farmers to panic over the lack of sunlight. According to a recent collaborative study between Tsinghua University in Beijing and the Boston based Health Effect Institute, burning coal has the worst health impact of any source of air pollution in China and has caused 366,000 premature deaths in 2013 (https://www.nytimes.com/2016/08/18/world/asia/china-coal-health-smog-pollution.html?_r=0). According to the American Lung Association (2011), coal-fired power plants produce more hazardous air pollutants in the United States than any other industrial pollution source. Upon burning, coal releases chemicals into the atmosphere that threaten not only the air Americans breathe, but also the water they drink, the soil they live on and the food they eat.

A recent study by the Mumbai (India) based Conservation Action Trust estimates as many as 115,000 deaths annually due to coal-fired power plant pollution, costing the nation about $4.6 billion. The report also links millions of cases of asthma and respiratory ailments to it (https://www.scientificamerican.com/article/coal-fired-power-in-india-may-cause-more-than-100000-premature-deaths-annually/). A study to assess the health impacts of burning coal to generate electricity conducted by Stuttgart University's Institute for Energy Economics and commissioned by Greenpeace International estimates that air pollution from Europe's 300 largest coal power stations causes 22,300 premature deaths a year and costs companies and governments billions of pounds in disease treatment and lost working days (https://news.mongabay.com/2013/06/burning-coal-responsible-for-over-20000-deaths-a-year-in-europe/).

### *4.3 Climate Change*

Coal is one among three fossil fuels (coal, petroleum and gas). The burning of fossil fuels for energy production is a major cause of increased greenhouse gas emissions, which are responsible for anthropogenic global warming leading to much dreaded climate change. Although Africa's contribution to greenhouse gas emissions is very small, it is known that it stands to suffer more due to the adverse impacts of climate change.

Climate change is a major global concern and the world is seriously engaged to address this scourge. Zambia signed the Paris agreement on climate change on 20 September 2016, which entered into force on 4 November 2016. His Excellency the President of the Republic of Zambia, Edgar Chagwa Lungu during his visit to the Marrakech climate conference, assured that Zambia would bring changes in its legislation in the light of the signing of the Paris agreement on climate change. Zambia now has a National Policy on Climate Change (NPCC) which was launched in 2017.

As part of the Paris agreement, Zambia has submitted its Intended Nationally Determined Contributions (INDC) to the United Nations Framework Convention on Climate Change (UNFCCC). Intention for a low carbon and climate resilient development pathway is

clearly enshrined in Zambia's recently formulated NPCC and National Climate Change Response Strategy (NCCRS).

Although the INDC are not legally binding commitments and countries can wiggle their way out of following them, as part of the global community, Zambia is expected to be a responsible nation and to uphold the international treaties and regulations. Unfortunately, at this time, the U.S. under the leadership of Donald Trump has decided to move unilaterally against the global tide on climate change. Nevertheless, commitments under the climate change treaty are likely to become increasingly more stringent and binding in future, as the world needs to tighten up towards its goal of restraining the rise in the earth's temperature to well below 2°C.

Image 1: A solar power plant in South Africa (Author's picture)

## 5. Global Trends

Climate change concerns are rapidly driving the world away from the use of fossil fuels, towards the increased use of renewable sources of energy. We are in the midst of an energy revolution. For the first time in history, the year 2015 witnessed more than 50% of new power generation in the world coming from renewable energy sources, mainly solar and wind. All major global international organisations like the U.N., the World Bank, the African Development Bank and the Kofi Annan led Africa Progress Panel have been unequivocal in advocating the increased use of renewable energy.

Although coal is a very valuable source of power, as it provides 41% of the current electricity generation worldwide, the world is now weaning away from coal. Consumption of coal has passed its peak and the use of coal is on the decline. Global coal consumption fell

by 1.8% in 2015, well below the 10-year average annual growth of 2.1%. As natural gas is much less harmful than coal, some countries are replacing coal by natural gas.

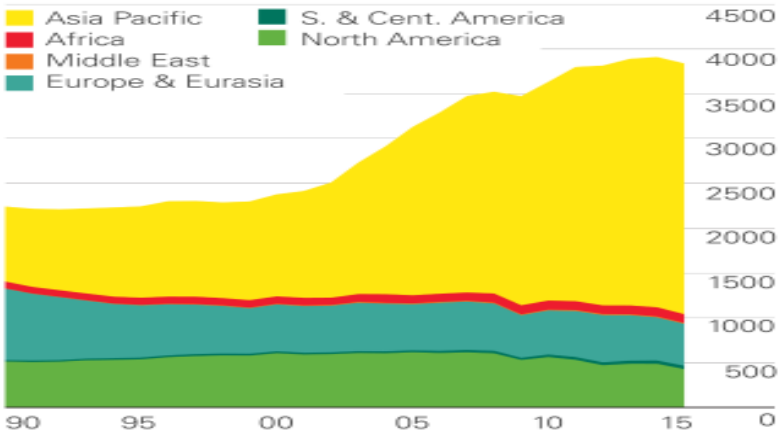


Figure 1: Coal consumption by region (million tonnes oil equivalent) (Source: BP Statistical review 2017) https://www.bp.com/content/dam/bp/en/corporate/pdf/energy-economics/statistical-review-2017/bp-statistical-review-of-world-energy-2017-full-report.pdf

China, the U.S. and India account for about 70% of global coal consumption. All three of these large coal consumers are now moving rapidly to implement aggressive policies to drive a sustained decarbonisation of their grids. In 2015 in the U.S., 94 coal-fired power plants closed, with a total capacity of over 13,500 MW. Another 41 coal plants were scheduled to close in 2016, with a total capacity of over 5,000 MW. This trend may receive some reversals in the hands of President Donald Trump, but it cannot change international trends and directions.

China is currently the largest consumer of coal in the world. More than 60% of its energy comes from coal. But due to pollution and climate change concerns, the use of coal is on the decline with both imports and domestic production of coal having been reduced in recent years. China has halted work on thirty under-construction large coal power plants with a total capacity of 17 GW. In order to reduce the usage of coal, it is also cancelling 100 GW of coal power plants which are in the permitting stage. These decisions, although very painful due to huge commercial losses, are being taken in view of long term implications. Since coal is the most intense pollutant, some of the coal-fired power plants are being replaced by relatively less polluting natural gas-fired power plants as an intermediate measure.

The South African power utility Escom has also drawn up plans to decommission some of its old coal power plants and reversed earlier decisions to extend their life span. Escom would shut down five old coal power plants, in order to make room for electricity from the Independent Power Producers (IPPs). Sluggish economic growth and moving away from coal towards more renewable energy are some of the considerations leading to these decisions.

Britain is rapidly reducing the use of coal to generate electricity to reduce pollution and harmful emissions (Nature Climate Change, 2017). On Friday 21 April 2017, Britain went without coal to generate electricity for 24 hours for the first time since the industrial revolution. There are currently 16 coal power plants still operating in the U.K. all of which will be closed by 2025. The Digest of UK Energy Statistics (http://go.nature.com/2q80ve7) reports that from 2014 to 2016 the share of coal in the power mix reduced from 29% to only 9%. France and Canada wish to fully withdraw coal power by 2023 and 2030, respectively. Climate change negotiations are evolving. Requirements for greenhouse gas emissions reduction will gradually become more stringent. It is likely that even developing countries will be required to reduce their emissions. Coal does not occupy any room in future energy sustainability.

## 6. Good Initiatives and the Need to Rethink Coal

Coal has historically been a very useful source of power. Currently the largest share of electricity being produced worldwide is from coal. But, in view of serious environmental, social and climate change impacts of burning coal, the world is moving away from coal and rapidly switching to clean renewable sources of energy, notably solar and wind. Renewable energy has undergone dramatic price reductions in recent years and is now competitive with traditional sources of power. Moreover, the price of renewable energy continues to decline further, whereas the price of electricity from coal is more or less static. Furthermore, the time-frame for a utility scale solar power plant is about one year compared to about five years for a coal power plant. Thus, renewable energy scores on all three fronts.

The Zambian government's swift response to mitigate the power shortfall of 2015/2016 is commendable. With Maamba coal plant and Itezhi-Tezhi on board, together with good rainfall and some power imports, the situation has more or less normalised in 2017. Zambia has good solar resources and solar energy combines well with hydropower. Therefore, the government's new initiative to go for the World Bank Group Scaling Solar program to set up 600 MW of solar power is a highly welcome initiative and a milestone in the Zambian power sector. This will significantly enhance total installed capacity, reduce power shortfalls, attract private investment and enhance power sustainability at a cheaper cost. At the same time the move towards cost reflective tariffs is another highly welcome step which was long overdue. It will help in attracting private investment in the power sector.

Other good initiatives of the Zambian government include the construction of the Kafue Gorge Lower 750 MW hydropower plant, which started again during 2015 after being abandoned earlier in 2011 due to contractual issues. Active construction work is now ongoing and the project is due to be completed in 2020 (http://www.power-technology.com/projects/kafue-gorge-lower-kgl-power-station/). Another large

hydropower plant which is attracting attention is the Batoka Gorge, to provide 1,200 MW each to Zambia and Zimbabwe, which is in the early planning stage.

However, the move towards the increased use of coal is full of risks. A common argument generally advanced to support Zambia's position on increased coal use goes as follows: Zambia is still a developing country desperately in need of more power. On a global scale, its contribution to greenhouse gas emissions is negligible. Coal provides a reliable, affordable and abundant source of power. It diversifies the energy mix and forms a good base load to allow for increased use of renewable energy (solar and wind), which is intermittent. Moreover, developed countries have reached a stage of high development through the use of dirty fossil fuels including coal. Zambia should also be free to choose whatever path it takes to develop. Eradication of poverty should take precedence over global issue of climate change.

The 2008 National Energy Policy (NEP) of Zambia seems to provide legitimacy to the increased use of coal for electricity generation, as it aims to increase the contribution of coal as an energy resource and supports the use of coal for electricity generation. However, it may be noted that the global trend has changed dramatically since the 2008 NEP and the policy needs to be re-examined in respect of increased use of coal for electricity generation.

Zambia needs to be mindful of global developments. At a time when the world is moving towards cleaner sources of energy, Zambia seems to have chosen the opposite path. Trying to diversify the energy mix using a highly unsustainable source of power like coal will not help. Simply because developed countries went through a certain developmental path does not necessarily imply that developing countries should choose the same path irrespective of its consequences, especially when alternative options are available. If Zambia did not have any other source of power, there would be no argument about the increased use of coal. The use of coal will damage the health of many Zambians, it will cost more money and it will contribute to global climate change.

Solar power is clean and practically free from any pollution. Admittedly, it is intermittent and requires a base load. But plenty of hydropower provides Zambia with a good base load. As a thumb rule one can add about 50% intermittent power like solar or wind on top of a base load. Since Zambia already has over 2 GW installed hydropower, it can add a total of around 1,000 MW of solar power even under the existing installed capacity. Therefore, solar energy should occupy a much higher proportion in the national energy mix. There is need to undertake a comprehensive study to assess the total solar energy which the nation can commission, as well as identify the points at which solar energy can be generated and fed into the national grid.

The life time of a coal power plant is between 30 and 50 years. The commissioning of new coal power plants could boost greenhouse gas emissions and lock Zambia into fossil fuel intensive energy systems for decades. Zambia will commit to a technology that will become obsolete and the investment may become a dead asset after one or two decades. Going for new coal power plants at this stage will be uneconomical. New investments in

coal-fired power plants would be extremely risky in the current global economic, technological and policy scenario. Long-term investments in this risky technology could be acceptable if the country did not have any other choice. But Zambia has other choices and so it must rethink its strategy on coal.

Zambia should undertake a comprehensive study on the long-term socio-economic and environmental implications of various sources of power, especially coal power vs. renewable energy. It should also undertake studies on grid absorbing capacity. These studies should allow it to draw up a more comprehensive plan for a sustainable energy future. It appears likely that hydro, solar photovoltaic, concentrating solar power, wind energy and energy conservation will be sufficient without recourse to more coal power for securing a sustainable energy future for Zambia.

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