



Repercussions of Poor **Electricity**

Services on Community Peace in Aden

— Policy Paper —

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About project:

Research Guidance Project (RGP), implemented by Resonate! Yemen with funding from Project on Middle East Democracy (POMED), aims at promoting youth role through engaging them in public policymaking and supporting Yemen's peacebuilding process to enable youth to influence public policies and solve problems related to community cohesion and local governance. This effort is within Resonate! strategic goal of promoting youth voices and bringing them to decision-making positions.

Executive Summary :

Since 2015, Yemen has been plunged in large-scale war which has left destructive effects on the community, including interruption or poor provision of public services. This aggravated suffering of citizens and produced community conflict, affecting community fabric and widening gaps of community conflicts. In light of this, this paper addressed community conflicts resulting from lack of or poor provision of electricity services in Aden, which has been worsening for over a decade and adversely affecting citizens. The lack of or poor provision of electricity services is still a matter of concern as its effects are expanding in the local communities in Aden and might extend to other governorates that suffer from the same situation. This paper discussed the irregularities resulting from mismanagement and frequent interruption of electricity services and turning into community conflicts. It also addressed the roles of community committees in mitigating conflicts between locals as well as the role of the electricity corporations in improving the service. This paper shed light on the successful Kenyan experience that could be drawn upon to address the problem.

This paper concluded several procedural recommendations for the roles of electricity corporation, police stations, international organizations and community committees to contribute to mitigating the effects of community problems until the problem of interruption and poor electricity service is radically solved by the government in a manner that mitigates conflict factors and bolster community cohesion in Aden. The recommendations also included providing a role for the private sector as a key development partner; supporting electricity service in the governorate; adopting community-based solutions to mitigate relevant community conflicts; shifting the government attention to building power plants rather than purchasing power; and reinstating power hot lines of the electricity corporation in Aden.

Keywords: Electricity service, Yemen war, Aden city, service-based community conflicts and community peace.

Introduction :

Yemeni society has been engulfed in nationwide armed conflicts since 2015, which had a lasting impact on the absence of many basic services that are the right of every citizen. This paper particularly addresses the situation in Aden Governorate, where the war has destroyed the service infrastructure or wholly or partly interrupted services, especially the electricity service, which is the subject of this paper. Most Yemeni governorates, including Aden, suffer from a major interruption of electricity service which gave rise to multiple effects, mainly community conflicts. Aden governorate is one of the first Yemeni cities to connect to the electricity grid at the end of the nineteenth century. The availability of electricity then attracted many aspects of civil life, which made such service a necessity and an indispensable life characteristic for the governorate population, unlike many other cities that did not have electricity services until a later stage. However, the residents of Aden city, with a hot climate of 42°¹ and a high population of 1,000 people per km²,² suffer from the lack of electricity service. This service further worsened after the outbreak of armed conflict in 2015 in Aden, which caused serious damage to the electricity infrastructure, as generators, power transformers and lines were targeted. This required the Electricity Corporation to restore the networks rather than replacing them due to lack of funds³.

This paper aimed to highlight the repercussions of the poor or interrupted electricity service in Aden governorate and resulting community-based conflicts as well as damages to citizens' life and property. This paper involved 15 in-depth interviews with relevant staff from the Electricity Corporation, citizens and heads of community committees from some neighborhoods in Aden.

Problem Statement :

The ongoing war since 2015 has led to the devastation of electricity grid infrastructure, damage of power generators of the Public Electricity Corporation (PEC) and decline of the PEC capacity to provide sufficient power to Aden citizens. Aden suffers from frequent power interruptions due to lack of PEC capacity and needs, including equipment and generators, dilapidated electricity grids and lack of fuel. Such needs are necessary to ensure continuity of PEC operations and uninterrupted power delivery or avoiding sudden stoppage of power plants⁴. The government investment program for developing the electricity sector was suspended since the outbreak of war,⁵ and it is difficult to obtain funding from donors or funding agencies, which led to a significant and lasting weakness in the provision of electricity service. This low service provision was compounded by poor collection of electricity bills from government facilities and residential sector as a result of the interruption of salaries, currency depreciation and high prices, which weakened the citizens' ability to pay electricity bills, and increased the PEC burden⁶.

“The ongoing war since 2015 destroyed and dilapidated the electricity infrastructure in Aden, led to the decline of electricity services, aggravated the community suffering and created community conflicts, which affected community cohesion.”

As a result, the electricity services further deteriorated which made citizens look for temporary and dangers solutions to get electricity. Many citizens started to make illegal connections (usually connecting two powerlines to the same house in a random and unsafe manner), which affects the quality of electricity in other houses⁷ and thus led to financial losses, damage of appliances, deaths and fires (a fire occurred in a house in Hussein neighborhood in Crater district)⁸, damage to the grid due to overload and an increase in the hours of power outages at homes.⁹ As a result, community conflicts took place between citizens and the main culprit is the citizen. Sometimes, PEC staff provided illegal assistance for making illegal connections in contravention with the PEC instructions for meager money from citizens, which is corruption.

Community conflicts also arise between citizens and the concerned authorities, either due to illegal connections or complaints from families about young people in the neighborhoods who harass families.¹⁰ These conflicts require the intervention of community committees, and when the situation develops and gets out of their control, the police stations may intervene. A key cause of conflict is when young people stay outdoor due to suffocating heat waves inside homes, families get annoyed and prevent their daughters from leaving the house for being afraid of that their daughters might be harassed. Conflicts may occur between families and these young men due to harassment, which may result in verbal and physical violence, exacerbating social breakdown. A female activist from Sirah district mentioned that harassment of families increased due to the presence of young people outdoor in the neighborhoods.¹¹

The illegal connection is also one of the reasons leading to community conflict, as it results in unjust use of power by some families while depriving others, and it damages appliances and property due to unstable current voltage.¹²

Limited Electricity Production and Increased Needs :

Aden city is the second largest city in Yemen and its economic capital with a high population rate exceeding 1,000 people per km².¹³ Aden could reach very hot temperature of 42°, ¹⁴ which requires high power voltage to run air-conditioners. Aden's population is increasing, and due to war, it is hosting growing number of internally displaced people (IDPs) of around 184,000 as of 2022 in 19 campsites. Aden also hosts the largest number of African refugees, i.e., 9,329, and it is one of the most developed urban Yemeni cities, with residential fabric covering 85% of the city in the last 15 years, and it is expected it had exceeded 100% until the writing of this study due to the steady random urban sprawl in the governorate in the last four years.¹⁵

“The city's high temperature of °42, the population rate of over 1,000 people per km² and the rapid urban growth which has doubled (%85) in the last 15 years increased power needs and on the other hand, network obsolescence, underdevelopment and decline in productive capacity created a real power crisis up to %50 of unmet electricity needs.

This leads to growing use and need of electric power, and the city's main plant capacity is not developed to produce sufficient power. The purchase of energy from power ships has been prevalent in the country for many years, representing (50%) of the volume of consumer energy and costing YER17 b annually. However, only 53% of the amount billed was received, which causes corruption in managing the electric power file of the governorate and leads to persistent non-compliance and poor service.¹⁶

The statistics of electricity showed that the produced and purchased power does not cover 50% of the energy needed for the governorate. The cost of produced and purchased power for the governorate is 1,832,417,250 KWH in 2018, which covers almost half of the required hours of consumption, with a deficit of around 50% of energy need.¹⁷

This deficit in power production intensifies competition and conflict over energy in the governorate, and the random and illegal connections also cause multiple conflicts between citizens. The suffering of citizens has aggravated due to lack of official attention to this significant issue, and long power outages cause hardship to the governorate residents and make them stay outdoor, block main roads and cause chaos in the city.

This also resulted in community conflicts affecting community cohesion, caused community unrest and eroded public trust in the PEC staff¹⁸. This pushes citizens to pursue illegal methods to connect their homes to the grid such as illegal connections, which inflict severe damages to the network, property or the life of citizens, including fires, deaths and significant financial losses¹⁹.

Poor Approaches to Addressing Electricity Issue and Continued Reliance on Electricity Purchase Rather Than Local Electricity Production:

The ongoing war and deteriorating economic situation dried up the state treasury. The general state budget is unable to provide funds needed to implement investment programs in the energy sector. Also, the non-payment of electricity bills by consumers (only 53% pay bills) in Aden city and the poor government ability to attract funds to develop the electricity production infrastructure in the city greatly affected maintenance and development of the electric power system although there are projects and directions for energy production and expanding production capacity, according to the Ministry of Electricity (MoE). The MoE is implementing a \$264 m gas-fired power plant with a capacity of 264 MW as a first phase in Aden through PetroMasila Company with government funding. The MoE is also implementing a \$31 m project to rehabilitate Al-Haswa thermoelectric power plant.²⁰ However, these projects have not seen the light of day, which fuels the persisting problem without a solution in the horizon.

The electricity purchase continues, with nearly half of the energy (worth YER17 b) provided by PEC purchased²¹. This leads to laxity in developing PEC's capacity to produce energy, opens a door for corruption and keeps the problems arising from poor electricity service unresolved.

Multiple Forms of Conflicts Arising from Mismanagement of Electricity Services in Aden City:

The mismanagement of electricity services in Aden city leads to multiple forms of conflict, which reportedly include:

1. **Conflicts between citizens due to unjust use of electricity by homes while depriving others (illegal connection):** Some respondents reported that citizens feel resentful when they see other citizens connecting two power lines, which leads to withdrawing electricity to their homes and depriving others. This causes altercations, including verbal violence (insults).²²

Many citizens suffer from persisting power outages from their homes, and this is due to the illegal power connection, which deprives many people of the electricity service, which in turn leads to recurrent disputes and quarrels between neighborhood residents and increased workload on the PEC staff.

2. **Conflicts between citizens and traders due to illegal connections:** A neighborhood head indicated that the shop owners make illegal connections due to persisting power outages. This makes people upset, and thus disputes outbreak with the traders. Once a gold shop made an illegal connection, which placed heavy load over the powerline and led to power outage in the houses adjacent to the shop which lasted for 24 hours.²³ This made the residents angry who then attacked the shop; quarrels and insulting occurred, and eventually people attempted to shut down the shop.

3. **Young people stay outdoor to escape the scorching heat at home:** Persistent power outages make young people stay outdoor on the streets due to the high temperature at homes. When young people stay outdoor, they annoy other neighbors due to the loud noise they make until a late time at night, and they sit next to homes where girls live. A citizen said that reports were submitted to the neighborhood head regarding harassment staged by youth. The community committees intervene to resolve conflicts between people. Despite the fact that citizens go to the community committees, who in turn coordinate with the local authority to solve problems, the conflict recur because the provided solutions are temporary, and the root cause is ongoing which is the electricity service in the governorate.²⁴

Exacerbated Community Conflicts are Reported to Police Stations:

Some electricity-related conflicts between citizens are minor and are resolved by the community committees or social figures in the area; however, in some other times, the conflict escalates and reported to the police stations. This exacerbated conflict leads to a deeper community conflict, according to some respondents.²⁵ The work of community committees is voluntary, but the exacerbation of conflict between citizens exposes them sometimes to insults and abuse by citizens who consider these committees as their opponents if the problem is not resolved in their favor.

If the conflict goes beyond the reasonable limit of the community committees, the police stations and concerned authorities are contacted. When complaints reach the police stations, this may deepen conflicts or disagreements between citizens who consider the police's intervention a slander. A community committee head mentioned an incident that occurred to another female committee head who was insulted and abused by citizens while performing her duties as a neighborhood head. She then reported the incident to the police station who made the perpetrator sign a written pledge not to assault the female head of the neighborhood again. This incident led to a rift in the relationship between citizens and the female neighborhood head as well as among citizens as a result of the police intervention. Such factors certainly exacerbate the conflict and affect community cohesion in the long term.²⁶

According to respondents, the problem of young people staying outdoor on streets to escape the scorching heat due to the lack of electricity at homes has led to exposing girls and families to harassment and subsequent conflicts. The community committees had to intervene to resolve conflicts between citizens in the neighborhoods. The community committees may have to report some conflicts to the police stations who take strict measures sometimes and make young people and their families sign written pledges, which exacerbates the problem between families in the same neighborhood and increases the chances of future conflicts due to existing tension.

Dangers of Illegal Connections on Property and Lives:

According to interviewed respondents from PEC Aden, the governorate witnessed increased electricity consumption due to several forementioned factors, including population and urban growth. The electricity network is dilapidated with no capacity to connect new houses, and some of the electrical transformers have been outdated since 1986. According to the PEC Deputy Director (of Second Region), “New generators are not provided due to their high price and lack of funding. The price of one generator is \$20,000 and the PEC is working on maintaining the dilapidated generators. Also, there is no government support to cover the shortage of generators or sustainable and stable financial support for the electricity sector, and the citizens are not committed to paying electricity bills. Thus, the PEC cannot cover the costs of purchasing new generators, which leads citizens to violate the PEC rules through random connection; this weakens power generation and places great pressure on the powerlines, which leads to multiple painful accidents.”²⁷

“Citizens' recklessness and lack of awareness of the risks of illegal connections claims the lives of PEC staff and citizens due to electrocution and fire accidents, such as the incident that occurred in Hussein neighborhood in Aden.”

The random connection leads to many fire incidents; a head of community committee from Crater district reported that a fire occurred in one of the houses in Hussein neighborhood in Crater district²⁸ due to an illegal connection by one of the homes in the neighborhood. The fire started because of reverse power and forgetting to switch electricity (cut-out) to the second power line (illegal connection), causing the electric current to flow backward, exploding the powerline and setting the whole house into fire. This fire accident left a daughter and mother dead.

The random illegal connection also affects the PEC staff. According to a neighborhood head who is a member of a community committee in Crater district, “A PEC staff was injured while repairing a malfunction in the electricity generators, as he shut down the current from the line he was working on but did not know that a citizen had made an illegal connection to his house from the same powerline, causing the electric current to flow backward to the powerline while the PEC staff was working on it. This caused lethal physical damage to the staff.”²⁹ The media office of PEC Aden also confirmed the recurrence of such events as well. It mentioned a similar event that occurred during the Technical Maintenance Team (TMT) work on a technical defect in a neighborhood in Sheikh Ishaq in Al-Mualla district. The TMT emergency member “Abdullah Al-Mudhaffari” was seriously injured due to a power reverse resulting from an illegal connection (illegal two powerlines connected to the same house). This is a recurrent problem in Aden without an official response.³⁰

Negative Practices by Some PEC Staff:

Citizens usually make random illegal connections to feed their homes with the help of a PEC staff who knows the type of powerlines and connection points. The electrician would easily make the illegal connection for some money, although he knows that such act will expose him to legal accountability, amounting to a fine or dismissal, but he does the job without hesitation due to the small wage provided by the PEC.

Some of the PEC staff also help citizens for some money to tamper with the electric meters through slowing them down. Thus, citizens could get smaller bills inequivalent to the real value of electricity consumption, while others pay the actual amounts of electricity bills, even if they are high. This problem is exacerbated by the irregular visits of PEC staff to record the electric meter readings, and there is also no regular follow-up or control by the PEC to detect illegal connections, which causes great damage to other citizens as well as to the electricity grid infrastructure.

Dilapidated Network, Poor Maintenance and Burdens on Maintenance Staff Cause Suffering to Citizens:

As forementioned, the Aden electricity network suffers from the aging network components, including generators, cables and transformers, with some of them in operation for over thirty-five years since 1986, and with poor maintenance capabilities.³¹ When faults occur in the lines cutting power from homes, the citizens call the PEC Aden emergency numbers to report the power outages for long and continuous hours in the area, but to no avail, as the PEC does not respond in many cases. The citizens then had to go to the PEC area office, who ask them to pay money to the maintenance staff.³² This was also confirmed by a community activist in Al-Buraiqa district who said that there is no fast response from the PEC staff to citizens' complaints about technical faults in electricity or burning of electricity cables. This leads to cutting the electricity supply to the area, which requires the citizens to pay the cost of transporting the maintenance staff as well as paying them some money to fix the fault, although this is an established PEC task.³³

“Outdated generators and poor transformers that have been in operation since 1986 have not been replaced as well as lack of maintenance led to doubling the hours of power outages, increasing the suffering of citizens, and increasing the efforts required from PEC staff.”

A community committee member provided a different opinion, as he explained that the PEC staff are respected because the high temperature in the governorate leads to many breakdowns, and the network is dilapidated, so that they work 24/7 even on rest days “Friday”. However, some citizens do not appreciate the efforts of maintenance workers who fix the electricity when it is cut from their homes. He added, “We, as committees, notify the PEC staff, and they respond and work to solve the problem.” In addition, the PEC staff do not have the necessary needs, as there is only one car on duty for Crater district, and one staff moves between the district areas, which put him under stress.³⁴

PEC Efforts:

The PEC staff strive to apply interim solutions to fix the electricity faults caused by the grid deterioration, the insufficient capacity of the functional electric generators to cover power generation deficit in Aden or the illegal connections made by citizens. These weaken the powerlines and disconnect power from homes. Therefore, the PEC staff are conducting campaigns to remove random and illegal connections. The PEC second-region office in Aden launched a campaign to remove random and illegal connections in the Al-Basateen and Al-Lohoom neighborhoods in Dar Saad district, which aimed to end the random and illegal connections in all districts of the capital, Aden.³⁵

The PEC Aden provides solutions to improve its service and conducts campaigns to remove illegal connections, but all attempts are temporary because the government agencies have not responded to the proposals that will work to end the problem once and for all.

The PEC Aden spokesperson “Nawar Abkar” stated that the PEC Aden submitted studies to government agencies months ago stressing the need for rehabilitating the government power plants to cope with this year’s summer. However, no measures have been taken to implement the rehabilitation process, and the procedures remain pending. The power generation capacity continues to decline over time due to lack of rehabilitation of plants as they operate 24 hours a day, which makes it impossible for them to continue with the same capacity in the following year, if not rehabilitated.

The spokesperson also said, “A proposal was submitted to operate the “PetroMasila” plant with a capacity of 264 megawatts, which requires only \$20 m to be completed to operate at its full capacity, especially that it is powered using local fuel.” However, there was no response to the proposal, and the plant continued to generate electricity with a capacity of 90 megawatts only. He also explained that the switchgear project has not been completed due to wear and tear of the existing network. Abkar added, “The equipment of the switchgear project and transmission towers, such as switches and others, arrived in Aden in January of this year, but this project was stumbled due to irresponsiveness to the implementing company’s demands to fulfill the payment of \$20 m, in addition to the fuel problem, because this plant is gas powered through pipelines and floating tanks. Unfortunately, the plant was operated with heavy-consumption crude oil which reduces the lifespan of the plant, unlike clean gas.”³⁶

Successful Experiences (Kenyan Experience):

After years of struggle, the Kenya’s national utility has found a way to bring electricity to the country’s poorest neighborhoods using a community-based approach, as Kenya Power has gone from 5,000 households connected under its informal settlements program to over 150,000 households in just one year. This new approach was adopted to address its biggest challenge, which is making connections available to slum dwellers, where many areas of Kenya used to have poor-quality and unsafe connections.

People had to buy illegal connections from local cartels. Services and business activity were highly constrained, insecurity was rife, and electric fires and electrocutions were common. Dr. Ben Chumo said, "We established the reason for people's resistance to the electricity projects: the lack of involvement of the community there in decisions targeting them." To solve the problem, Kenya Power focused on taking down the illegal power connections, only to find them up again just a few days later. Kenya Power worked to find solutions to change the way it was doing business, adopting a community-based approach in slum communities. This meant no longer taking down illegal connections. Instead, it focused on listening to community members and leaders, and marketing the benefits of legal connections - safety, reliability and affordability. Legal power was now less expensive than what people had been paying middlemen for illegal lines. The process succeeded and the community interacted, as most consumers now use a pay-as-you-go scheme, paying electricity in small installments. Dr. Chumo said "People now come to us, asking us to light their communities. This is no longer a Kenya Power project. It's their project"

Recommendations:

Based on the analysis results in this paper, it is clear that the impact of poor electricity service in Aden governorate on community cohesion has two sides: procedural and cultural. The first is related to the official authorities, while the second is related to changing awareness and the prevailing culture through raising community awareness about preserving the electricity service infrastructure and uninterrupted PEC functions. Each side is covered as follows:

The procedural side (Official role):

Recommendations to government and PEC:

1. Provide adequate financial support to the PEC to overcome the low energy production through purchasing additional generators, developing and maintaining the current system and increasing its production capacity.
 2. Strengthen the PEC role in addressing the problem of non-payment of electricity bills and raise the collection rate to 100% instead of the current rate (53%).
 3. Implement sustainable strategic energy projects based on alternative energy sources, using less costly fuels.
 4. Forge a strong partnership with the private sector to build new power plants instead of purchasing high-cost electricity from abroad, while it is possible to build plant that cover urgent needs.
 5. Launch campaigns by the PEC to remove illegal and random connections, seek the help of security services and community committees and take strict measures against violators. Address random connections through official re-connection instead of being outside the system.
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6. Activate the PEC hotline service.
7. Build the capacities of PEC administrative and field staff to perform their work properly and reduce errors.
8. Build the capacities of community committees on resolving community conflicts, grant them powers commensurate with the nature of their roles and link them to decision-makers.
9. Provide PEC staff with personal protective equipment for electrical works to ensure their physical safety.
10. Increase coordination between the PEC and the police stations to tackle difficulties hindering the PEC work.

Recommendations to police stations:

1. Enhance the role of police station staff in Aden to help PEC staff provide services without obstacles and objections from violators, and to hold attackers of electricity infrastructure accountable.
2. Cooperate with community committees through conducting night patrols to reduce community conflicts and crimes resulting from power outages such as theft and harassment.

Recommendations to international organizations:

1. Contribute to supporting the PEC through financing sustainable projects to improve the electricity service in the governorate.
2. Contribute to building the capacity of community committees to improve their roles in resolving community conflicts.
3. Contribute to implementing awareness projects for local communities in the governorate to improve community awareness of the dangers and negative repercussions of the problem.

Recommendations to the sector:

1. Instruct the private sector to pay electricity bills to ensure service continuity and improvement.
 2. Work with the government within a strategic partnership to invest in the electricity sector in certain areas. It is possible to start building plants to supply electricity services to the private sector itself.
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The cultural side (Impact on community awareness):

Recommendations to community committees:

1. Build the capacity of committees to achieve community solidarity to mitigate negative practices affecting the electricity network.
2. Build the capacity of committees in resolving conflicts and establish mechanisms to prevent the recurrence of conflicts through community efforts.
3. Contribute to raising community awareness of the danger of illegal and random connections.
4. Improve community confidence in their supportive role to protect their interests.
5. Educate citizens about paying electricity bills to ensure improvement and continuity of electricity service.

Recommendations to CSOs and community initiatives:

1. Implement awareness projects about the effects of random and illegal connections on electricity services.
 2. Raise awareness of the dangers of growing community conflicts resulting from bad practices of some community members and related impact on the community.
 3. Implement initiatives for community collective solutions in some areas in cooperation with the PEC to solve the problem of random connections and removing illegal connections.
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About Resonate! Yemen

Resonate! Yemen is a non-profit NGO that has commenced working as a youth initiative in January 2010 and was officially registered at the Ministry of Social Affairs in August 2011, The Foundation is working to create a new environment conducive for developing more sustainable policies, where young people as are engaged as key partners in the development and evaluation of public policies. Resonate! Yemen aims to make the voices of Yemeni youth part of the policy discourse in Yemen, and to support youth work at national and international levels.



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