

The Local Resource Curse:

The symptoms in the Mining Area of Gafsa

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Abstract: Researches on the resource curse has been mostly discussed as a state-level phenomenon; few studies have been conducted on local resource curse. This paper aims to contribute to the local resource curse literature through the identification of its symptoms in the mining area of Gafsa. Results reveal that this region suffers from a local resource curse, the phosphate mining is not a blessing but it is a curse. It has caused adverse impacts (Economic, social and environmental impacts) on local communities.

Key words: Local resource curse – Symptoms – Mining area of Gafsa

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Introduction

During the second trimester of 2015, the events which happened in the mining area of Gafsa were widely reported by the Tunisian media. The events were: many unemployed university graduates stopped the trains transporting phosphate from Gafsa to Sfax and Gabes, demanding employment in the Phosphate Company of Gafsa (CPG) or in one of its subsidiaries. After few days, this act was followed by a strike of the customers of CPG asking for higher wages and better working conditions. This is not the first time that protests have put Gafsa's mining area in the spotlight. In 2008, Redeyef and Moularets erupted (6 months) claiming more transparency in the recruitment competition in CPG. Metlaoui, also have seen bloody protestation in 2011 (13 dead and more than 100 injured).

What is happening in the mining area of Gafsa is not specific to this region. These conflicts have become a permanent feature of the political landscape in many similar regions in the world, where relationships between mining companies and local communities are increasingly characterized by public protest, violent conflict and the notable absence of state intervention. These social conflicts and other socio-economic and environmental problems have raised questions of the importance of the mining activity for the local communities.

In response, many theories have been put forward to explain the relationship between natural resources endowments and economic development. One of the most popular is the resource curse theory which explain the supposedly negative correlation between mineral rich economies and economic growth (Auty 1993, Sach and Warner 1995,1999...). This theory, has dominated the debate on the economic, social and environmental impacts of natural resources in developing countries. It has been mostly discussed as a state-level phenomenon; few studies have been conducted specifically on local resource curse. The mining area of Gafsa can be seen as a typical example of the so-called 'local resource curse'. We are in a paradoxical situation; Although a region like Gafsa endowed with mining resources (mainly the Phosphate), it is characterized by high rates of unemployment, poverty, social conflicts and pollution.

The aim of this paper is to present the symptoms of the local resource curse in the mining area of Gafsa. In this study, we will use a more qualitative approach and adopted semi-structured interviews to different members of the actors of the mining sector (Mining company executives, community members, students...etc), official documents, and academic work addressing the performance of the mining sector.

Our paper is organized as follows. Section 1 reviews the key theoretical arguments that motivate our empirical investigation section 2, Backgrounds details are presented about the mining area of Gafsa,. In section 3, we present the symptoms of the local resources curse phenomenon in the case of the Mining area of Gafsa, Conclusion follow.

I- What do we mean by local resources curse?

I-1/ The resource curse theory:

For many decades, it was widely accepted that resources abundance brought wealth to countries. According to Rostow (1961), «... natural resource endowments would enable developing countries to make the transition from underdevelopment to industrial 'take off'...». These countries have been viewed as blessed by god. However, since the late 1980s, it has been noted an emergence of significant academic literature that has challenged this orthodox perception. A hypothesis suggests that abundance of natural resources can cause low economic performance. Using a cross-section of countries, Warner and Sachs, (1995, 1997, 2001); were the first to formally explore the relationship between resource abundance and economic growth. They found that" there has been an inverse association between natural resource intensity and growth between 1970 and 1990. Since this date, the resource curse has

become a very popular term especially among activists in civil society and many studies have been conducted to verify this assumption and to understand why a blessing can become a curse for a country (Gylfason, Herbertsson, and Zoega 1999; Leite and Weidmann 1999; Sala-i-Martin 1997).

Even though there is a growing body of literature and empirical analysis on the subject of the resource curse, a formal definition of the concept does not exist. All studies however, describe the phenomenon as a negative relation between resource abundance and the average economic growth rate. Wikipedia defines the resource curse as a “Paradox that countries and regions with an abundance of natural resources, specifically point-source non renewable resources like minerals and fuels, tend to have less economic growth and worse development outcomes than countries with fewer natural resources”. According to Sialitskaya (2013) the resource curse is defined as the phenomenon of underperformance of countries specializing in exporting natural resources in terms of social and economic development and poverty reduction, in comparison with countries with poor deposits of resources.

The current literature has identified many transmission channels of the resource curse (Frankel, 2010; Stevens, 2003). Among them we cite, the Dutch disease (Corden and Neary, 1982), the Rentier state (Mahdavy 1970, Beblawi and al. 1987), Social conflicts (Ross 2004, Collier, 1998, 2002), and corruption (Robinson and al 2006).

I-2/ The local resource curse

As said above, few numbers of studies have been conducted on “Local resource curse”, it has not yet received substantial attention from academics or policymakers. According to Suutarinen (2015) “The literature on the local impact of natural abundance is still at the early stages of development”. Among the most important studies, we cite Suutarinen, (2015); Maniloff and al, (2014); Aragon and al (2014, 2013, 2012); Borge and al, (2013); Loayza and al, (2013, 2015); Tynkkynen, (2007).

The local resource curse refers to the paradox that counties, regions and localities with an abundance of natural resources, specifically point-source non-renewable resources like minerals and hydrocarbons, tend to have less economic performance and worse local development outcomes than counties, regions and localities with fewer natural resources. In other words, it may be defined as the socio-economic disadvantage, social conflicts and environmental degradation at local level that results from dependence on extractive industries.

Most conducted studies affirm the presence of the local resource curse in counties, regions and localities endowed with natural resources. James and Aadland (2001) found that natural resources earnings have had a statistically significant negative effect on economic growth on U.S counties. Borge and al.(2013), through Norwegian municipalities endowment of hydroelectric power potential; they support the evidence which claims that higher natural resource revenues retard efficiency. Loayza, et al (2013), looking at the impact of mining on a number of socioeconomic indicators on a district level in Peru, Their results suggest that mining has increased household consumption, decreased extreme poverty and improved literacy rates. However, mining industry has also increased economic inequality in the producing districts and their surroundings. Ponce and McClintock (2014) consider mining production as a relevant factor of the substantial damage of the environment, livelihoods and poverty of local populations.

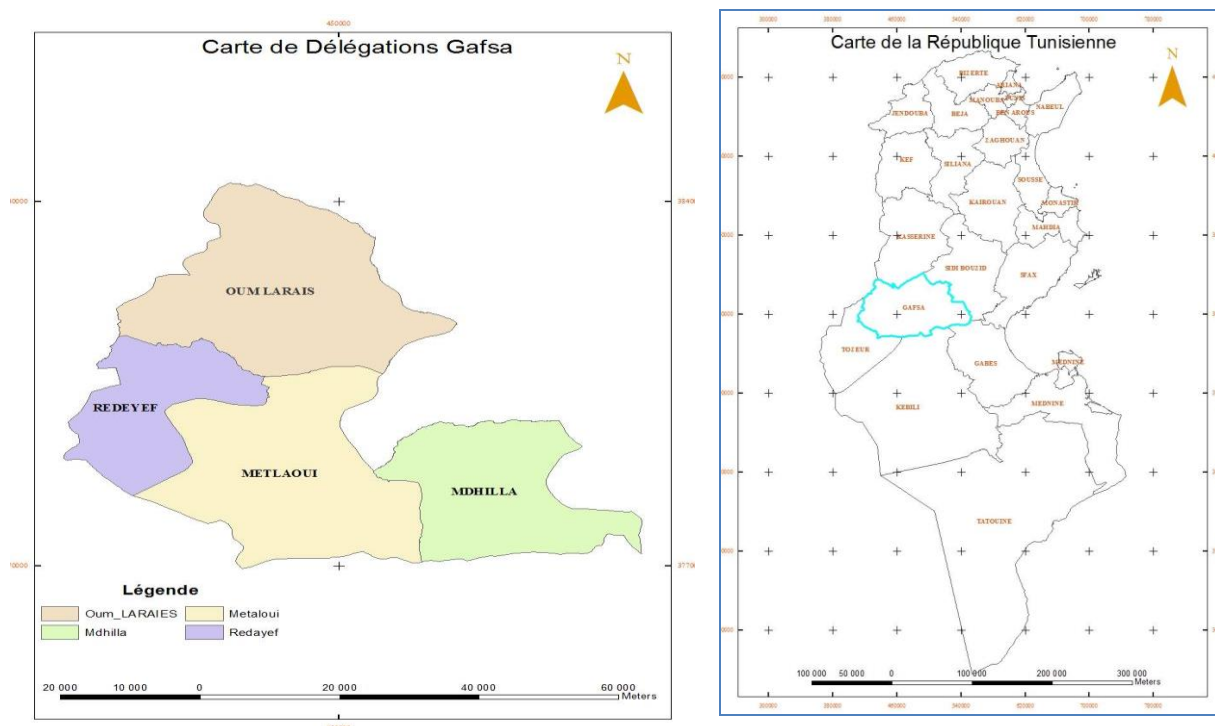
According to Suutarinen (2015), the local resource curse appears through eight channels: (a): the volatility of resource prices and unsustainable development (b): paradox of plenty (c): path dependency: local self-identity as a source producer (d): environmental degradation (e): paternalistic attitude of the state and regional authorities to resource industries (f): expectation of the locals of paternalism from public authorities (g): limited local opportunities to influence local development and the extraction of natural resources (h): the dominant presence of the resource firm in the locality. Aragon and al (2015) have distinguished four economic mechanisms through which resource abundance can affect local level: **(a):** Resource endowment and specialization, **(b):** Fiscal revenue windfall, **(c):** Local demand shocks, **(d):** environmental pollution.

II-The study area: The mining area of Gafsa

The mining area of Gafsa is located in the south-west of Tunisia on the frontier with Algeria, 360 km from Tunis. Covering a land area of 8990 Km². It is situated in a dry climate zone, it is characterized by important annual variation of temperature; very cold in winter (7°c in January) and very hot in summer 40°c in July). The precipitation recorded is very low and irregular, the annual precipitation of the city is always lower than 200mm.. This region is endowed with many natural resources (gypsum, marble...), the main one is the phosphate, which was discovered in 1885 by Philippe Thomas in Metlaoui. The exploitation of this resource has began in 1897 by the foundation of the Company of Phosphates and rail-roads of Gafsa, (Actually the Company of Phosphate Gafsa(CPG), It is by law responsible for the formulation of policies concerning the country phosphate mining.

In 1900, the production was 200000 tons. In 2010, the production exceeded 8.5 million tons; Tunisia was responsible for 4.3% of the world supply of phosphate rock. It was Africa’s second ranked producer after Morocco and the world fifth ranked producer after China, United States, Morocco and Russia.

The mining area of Gafsa is composed of 4 delegations: Metlaoui, Redeyf, Moulares and Mdhila. The mining area has 110000 inhabitants and an area of 3170.2 km²; representing and 36% of the total population of the governorate of Gafsa and 42% of its entire area.



The study area: *the mining area of Gafsa*

SOME CHARACTERISTICS OF THE MINING DELEGATIONS

Delegation	Metlaoui	Rdeyef	Moulares	Mdhilla
Surface	1113.4	480.7	995.7	680.4
Inhabitants	37894	27174	31206	13802

Source: The South Development Office (2013).

III- The symptoms of the local resources curse in the Mining Area of Gafsa

At the beginning of the mining exploitation, especially during the phase of development; this activity offered different opportunities for local communities because many extraction and processing facilities were needed to be built before the project can go into full production. For that reason, roads were constructed as well as rail-roads to transport the Phosphate from extraction sites to manufacturing and harbors. We have also witnessed the construction of many houses for workers and executives and many housing facilities have been given for others....The region of Gafsa was considered the New Oldorado of Tunisia, many immigrants came- from near regions (djerid, Kef, sfax, sidi bouzid,Gabes ...) and from other countries (Algeria, Morrocco, Lybia and Italy...)- seeking high wages level, permanent jobs and good living standards. The older persons named "Metlaoui" the "Petit Paris" (tennis court, ornamentals, football clubs....).

Despite the very important role played and continues to play by the mining industry in the development of the mining area of Gafsa (job creation; infrastructure...), The sector faced many socio-economic, political and environmental problems which have raised questions of its importance for the local communities. According to the regional development index (RDI) which established by the government, the delegations of the mining area of Gafsa are ranked at the bottom of the list (See Table N°) and they are designed by the government as regional priority development zones.

Delegation	Metlaoui	Rdeyef	Moulares	Mdhilla
Regional Development Index (RDI)	0.206	0.193	0.143	0.118
National range (RDI) (264 delegations)	187	194	231	243

Source: The South Development Office (2013).

The identified symptoms or manifestations of the local resource curse in the mining area of Gafsa are classified into three major groups namely the economic, the social and the environmental symptoms.

III-1- Economic symptoms:

The mining activity presents several economic issues, which are mainly the dutch disease and the low entrepreneurial intentions among young people.

A-The Dutch disease: The declining of the non-mining sectors.

The dutch disease, generally, appears when natural resource abundance causes increasing terms of trade and loss competitiveness of non mining sectors. One of the important signs of dutch disease can be observed in the region of Gafsa is the declining of the non mining sectors like Agriculture and Tourism. The mining activity didn't generate a positive spillover on non mining sector, contrary it has presented a competitor to the inputs (land, labors, water...) and a threat to the outputs (the quality of agriculture products,...), it has reduced the viability of firms in other sectors principally in the agriculture sector and less in the tourism sector.

A-1 The agriculture:

Since the beginning of the mining activity, the productivity of agriculture sector has significantly decreased, which can be noticed in three areas:

***Competition for land:** At the beginning of the exploitation, fertile lands had been grabbed from their owners (primarily in Metlaoui, Redeyef and Moulares) and became the State property's; the compensation received by the tribes installed in these regions is very negligible (Ouled Bouyahya in Metlaoui and Ouled Abid in Redeyef). In the 1920's, lands had been taken over by force from local community installed in Mdhilla and didn't get compensation (Akerma). Actually, all lands near

extractive sites were confiscated (almost 70% of lands) from their owners and became state lands, Local communities only have the right to housing (establishing houses and making extensions..), but they don't have the right to own or sell them, the government didn't give them the blue titles that allow them to sell or to mortgage them in order to get loans from banks. Also the negative environmental impacts of the mining activity (waste, dust and polluted water) made fertile lands unuseful and unsuitable for agriculture activity.

***Competition for water:** The phosphate industry is a water intensive activity; it uses huge quantities of water. The separation of the grains required 5 tones of water for every tone of phosphate. This situation has caused a crisis of water in the region of Gafsa (the summer of 2012 was characterized by the high number of water cuts). Farmers always depend on the wet season for their land cultivation.

According to the study done by Bru and al. (2010), the mining activity used more than 60% of the underground water reserve and it is expected to be increased in 2025 by 6Mm3 (+24.9%), (the irrigated water and drinking water demands are expected to increase by 21.7% and by 24.9% respectively). This level of consumption will lead to a deterioration of the water scarcity situation observed in 2005.

The demands water balance in the region of Gafsa in 2005 and 2025

	Agriculture (Mm3)	Drinking water (Mm3)	Mine (Mm3)
2005	9.2	4.2	20.9
%	26.82	12.24	60.94
2025	11.2	6	26.1
% increase from 2005	21.7	42.9	24.9

Source: *Bru and al (2010)*

***Competition for labor:** Farmers face some difficulties to find labors that will cultivate lands and harvest corps. The wage rates in agriculture remained low compared to wages paid in mining activity; mining labors are paid higher wages than workers in similar occupations in the same geographic area.

A-2 Tourism:

Even though the region of Gafsa has a broad range of tourist attractions like the Roman pools and Dar Loungo in Medina of Gafsa, the Berber caves in Sened, the red lizard train (it is a trip for two hours circuit near the site). The tourism sector has remained underdeveloped and it is growing significantly slower; most of the tourism indicators are not encouraging. The region of Gafsa is not on the tourist circuit and it hasn't a good tourism infrastructure; we find only 5 hotels (two are classified 5 stars), 11 restaurants, 6 travel agencies, with only 370 employed in the sector (2011), the occupancy rate is quite low (% 12.8), the average stay is 1.6 day, this region is considered as a transit area to Tozeur. Moreover, negative environmental impacts (dust, air pollution, waste...) could reduce the enjoyment of tourists.

B- The low entrepreneurial intentions among young people:

Many studies have emphasized the negative impact of the mining activities on the schooling rate; these activities are considered as disincentive to education. Young people have a disincentive to continue their education when relatively well-paying unskilled employment opportunities are available in the resource sector (van der Ploeg 2011). Papyrakis and Gerlagh (2007) find that schooling is the most important transmission channel of the resource curse in their cross-sectional study of the U.S. states. But in the mining area of Gafsa is not the case. In Tunisia, attendance to school is compulsory until the age of 16. On the contrary, Tunisia is suffering from the unemployed of university graduates. The mining activity has impacted negatively the entrepreneurial intentions of young people in this area.

Intentions have been proved to be the best predictors of individual behaviors, particularly when the behavior is rare, hard to observe or involves unpredictable time lags (Krueger & Brazeal, 1994). Understanding the entrepreneurial intention among young people can allow us to better predict whether they will take real action to start a new business (Wu and Wu, 2008). We have conducted a short questionnaire survey to measure the entrepreneurial intentions in which we have made a comparative study with final year university students from the mining area of Gafsa and students from the region of Tunis (the capital). The first, are studying at the Higher institute of Gafsa, and the second group is studying at the Science Faculty of Tunis. This group of students was chosen because they were suitable for studying entrepreneurial intentions as they were facing important career decisions on completion of their studies, of which entrepreneurship could be one of them. We have asked these group two questions. The first is a part of a questionnaire designed and tested by Linan and chen(2009),. In our case we have used only the relative part to the measurement of the entrepreneurial intentions. The second was about the favorite occupation wanted by young people (**see the appendix**).

Results mention that the entrepreneurial intentions of the students living in the Mining area of Gafsa are very low compared to the ones of the students living in Tunis. Also, results showed that the preferential occupation of the students living in this area is a position in the CPG or in one of their subsidiaries. We can conclude that the existence of the CPG has affected negatively the entrepreneurial intentions of young people from this region, there is a limited self initiative among university graduates, the entrepreneurial intentions in this region is very lower than other regions. The high wage level given by the CPG can be considered the principal cause of the low entrepreneurial intentions of the university graduates of Gafsa,

III-2/ Environmental symptoms:

Many researches undertaken by scientists have shown that the mining activity have caused a tremendous harm and unfavorable environmental impacts on the mining area of Gafsa. According to Jarvis et al (1994), phosphate rocks contain many metal elements, some of them, are considered as impurities and therefore have negative impacts on the environment. Giraud (1983) confirms that the mining industry is, by definition extremely polluting. These impacts can be broadly grouped into three categories which are not exclusive of one another. These categories include land, water and atmospheric air which are briefly described below:

A/ Land degradation:

Mining as a land use activity often competes with other types of land use activities such as agriculture or residential use. Mining changes the mining landscape significantly through the destruction of land resources and the fragmentation of the landscape, rendering the land unsuitable for other uses such as agriculture and pasture. Also, drainage from the mine could result in high concentrations of some metals in the soil, with such severe contamination impeding the growth of vegetation. Furthermore, land surfaces that are bare of vegetation are exposed to various agents of erosion; in 2009, Redeyef has been seen disastrous floods, it caused at least 20 deaths and destroyed more than 120 houses.

B/ Water pollution:

Water pollution is one of the most important impacts of mining because of the trans-boundary nature of water and also because of its importance in various ecosystems. The water can be affected by mining in many ways; the important one is the operation of drainage which needs a great volume of water (The separation of the grains required 5 tones of water for every tone of phosphate) can cause a high concentration of some metals in the soils which impedes the growth of vegetation and increase the probability of the contamination of the underground water. In 2014, we have seen the apparition of a mysterious lake –named the lake of Gafsa- between the road relying Gafsa to Moulares, it came into being due to seismic activity; the authorities warned local community to swim in this lake because the water was contaminated. This severe contamination of underground water has obliged local people to buy drinking water from near delegation (Essned).

C/ Air pollution:

The generation of dust during surface mining operations in Metlaoui, Redeyef and Moulaires; and the gas emission (sulfur dioxide, methane, and oxides of nitrogen) in Mdhila have had disastrous impacts on the quality of the air in this region; Mohamed and al. (2014) Results show that the daily average concentration in gas of the air in this region exceeds frequently on both the EU air quality standard limits and World Health organization (WHO).

III-3/ Social symptoms:

There are many social issues associated with mining activity that affect communities in negative ways. Mining projects may create jobs, roads, schools, and increase the demands of goods and services in mining areas, but it can also cause considerable disruption and controversial impacts. Some of the major social issues that have emerged from the concentration of mining activities in Gafsa are:

A/ Gender inequality:

Despite Tunisia was a pioneer country in promoting and protecting women's rights, through the promulgation of the personal status code (1956) and the signature a number of human rights instruments which specifically call for the treatment of women's rights as human rights, such as the Convention on the Elimination of All Forms of Discrimination against Women...; Women still suffer from sex-segregation in the mining sector. It is until now a male-dominated industry. This gender inequality can be observed through two indicators: a) the access of women to mining posts and : b) The position of women in decision-making posts.

a/ The access of women to mining posts:

Men are more requested for these positions of work because they require more efficient physical body to perform the required tasks. According to Ross(2006), the over reliance on resources tends to diminish female participation in the labor market by crowding out sectors that have propensity to employ women. Purevjah (2010) did a study on mining in Mongolia to explore gender roles in the Mongolian mines. The study shows that majority of the mining companies advertised their mining jobs openly expressing preferences for male employees due to general physical hardness of the conditions under which the mine workers operate.

We note that there are still very few women who are employed in the mining sector. From statistics of 2015 of the human resource department of the CPG, over 7200 employees we find only 200 women (2.78%) and the majority of them are employed in positions which are not related to mining posts such as clerks, cleaners; they are employed in so-called 'appropriate jobs for women'. Only very few are found in posts related mining activity. According to the competition results organized by the CPG in 2012, over 2585 positions, only 76 women were hired (2.94%). Also, a study done by Brahmi M. and Zouari S. (2014) mentioned that the professional occupation jobs in the CPG had dug more discrimination and inequity between the genders. They found that young academic females are the most affected.

b/ The position of women in decision-making posts:

As a consequence to the difficulty to access to the mining sector, we find that the representation of women in the decision making posts is very low, it is almost 2.78%. According to the organizational chart of CPG (2015), we find that over 36 departments, there was only one woman head of department (the training department); all other departments have men as their heads. (See appendix).

This situation has caused a wide range of negative consequences on women living in the mining area of Gafsa:

- An increasing rate of violence against woman in home.
- A low number of female leaders in the region

- In higher learning institutions women tend to choose courses which are so-called ‘appropriate’ for women. This leads to a lack of women professionals in geology, mining and mineral processing engineering.
- The political influence of women is almost nonexistent.

B/ High income inequality:

The salaries from mining work in CPG were substantially higher than other jobs available in the communities (other public positions or private sector). According to the ministry of social affairs, the average salary of the Tunisian people is 545 DT per month (2012) while in CPG, the average salary of a simple technician can easily reach 1800 DT per month (it is a salary of an assistant professor in the university) plus the premia (the start of the academic year, the celebrations of the aid, restaurant tickets...). This situation has created a gap between local community members who are employed by the CPG and those who are not. The first group can afford more due to the high incomes from their jobs. As a consequence, the favorite occupation for many of the local community is to become a mining company employee.

This situation is principally caused by the monopoly power of the trade union. The mining area of Gafsa is characterized by having historically strong union organization (UGTT); it is one of the oldest in Africa. This union has a strong bargaining power in collective consultation/ bargaining with the CPG; each year the UGTT negotiate the wages, working conditions and fringe benefits and it usually succeed to increase wages of union members.

Most of the empirical literature on the effects of unions on wage determination and wage distribution in developed countries agree on two basic results. Unions increase wages of union members and creating a wage differential with otherwise similar non-union workers. According Lewis (1963) the average union/nonunion wage differential in U.S.A is about 15%, this result is confirmed by Shultz and Mwabu (1998), analyzing survey data for South Africa in 1993, using a quantile regression approach to estimate the heterogeneity in union wage gaps. They report that African union workers could earn between 14.5% to 19% more than comparable nonunion workers.

C/ Human health degradation:

The mining activity poses serious threats on the health of workers and local inhabitants. Several studies (Pope and al. 2002; McDonnell and al. 2000), have shown that fine particles of phosphate in the air contribute actively to appearance of cancer in young adults and negative effects on the respiratory system of humans. Lipfert and al (2000) go further by demonstrating that the phosphate is the main cause of fatal cancer cases. Other studies in Germany (Herich and al 1999, 2000 and 2002) confirmed that the fine particles of phosphate are the main causes of bronchitis and asthma in children in particular. Also, Gnandi and al (2006) emphasize in their studies dealing with the environmental impacts of mining and processing of phosphates, that many diseases such as dental fluorosis in children are strongly linked to the presence of fluorine in phosphate rock.

Despite there is not a study has been conducted to assess the potential association between the phosphate industry and diseases affecting workers and local inhabitants, The region of Gafsa is known for its high rate of cancer disease, A visitor to the hospital Saleh Azaiez of cancer (In Tunis) can notice easily the high number of patients coming from the mining area of Gafsa. Recently, the ministry of health has built and equipped a unit specialized in cancerous diseases in the regional hospital of Gafsa.

D/ The increasing of the rent seeking behavior:

The Rent-seeking behavior describes the ability to capture incomes without producing output or making a productive contribution; rent-seeking behavior is one of the main causes of poor economic performance and it may affect entrepreneurial activities and innovation. According to Tollison (1997) the rent seeking behavior refers to “the socially costly pursuit of wealth transfers”. Rent seekers private

returns result from redistribution of wealth and not from wealth creation (Murphy and al.;1991). evidence from Brazil (Caselli and Michaels, 2013; Brollo et al., 2013) suggests that the fiscal revenue windfall, associated with oil royalties, has increased corruption and rent seeking at the local level. In the region of Gafsa we have seen an increasing of the rent seeking behavior which has many manifestations such as:

1/ the development of a cross-border informal trade :

according to a study conducted by the world bank, there is more than 3000 vehicles (Vans) used to transport goods illegally across the Algerian-Tunisian border (Gafsa and Kasserine), goods are essentially fuel, cigarettes, apples, household electrical goods (Led TV, satellite receiver) and white goods (refrigerators, air conditioner). This trade allows to traffickers to earn a lot of money because these goods are heavily taxed in Tunisia or they are heavily subsidized in Algeria.

2/ The increasing of the monopoly power of the trade union:

In many cases, trade unions behave as monopolists, they abuse of their ability to call strikes to extract rents for their members (increasing in wages, primea,.....). As The UGTT is widely perceived to be one of the most influential institutions in the Tunisian economy, he usually succeeded in imposing his claims.

These behaviors imply a production loss and consequently a decreasing in economic efficiency, also it may contribute to greater inequality throughout society between workers in the mining sector and workers in the non mining sectors; through this monopoly power, the UGTT have imposed to the government that 20% of recruitments will take place through the union (2004).

E/ Low participation of local communities in the decision making process:

According to the international human rights, individuals have the right to participate in decisions related to their own fundamentals interests. Moreover, according to the articles of the new constitution, local communities represented by municipalities and regional councils have the right to be involved in the decision making process and citizens have the right to access to public information about the conditions under which the extractive industries operate, and how the financial resources they generate are managed, ...However, there is a considerable gap between theory and practice.

Local communities in the mining area of Gafsa are not included and not represented in the decision-making processes regarding mining operations that concern the land and resources they live of or are otherwise connected with. Until now, the mineral exploration and production were regulated by the Mining code (law N° 2003-30 of April 28, 2003) which has no indication in its articles to the participation or the consultation of the local communities in the decision making process. Historically, governments have formulated mineral development policies without consultation with communities. Tunisia has a centralized political system, revenues from mining activity go to the central government and then it re-allocates them to governorates, delegations and municipalities.

F/ Social conflicts:

Diverse studies observe that social conflicts and protests arise in extraction areas (Arellano-Yanguas 2011). Recently, several societal protests have occurred in many mining sites in the world; we may name Peru, Chile, Argentina, South Africa, Ghana and Zambia. Compared to other governorates, the mining area of Gafsa is known by its high number and the intensity of the societal protests. In this area, we have observed two types of conflicts: a) conflicts between the government and the local communities and b) conflicts between local community's members (Tribes).

1/ Conflicts between the government and local communities:

The relationship between the government and the local communities in the mining area of Gafsa has been problematic throughout the history of the mining activity (Bread revolt 1984, Redeyf 2008 Metlaoui 2011...). These conflicts are usually a response to three impacts often associated with mining operations: 1) the employment, 2) the access to and the quality of water supply, and 3) the marginalization.

a/ The employment:

The modernization of the CPG and the closing underground mines in favor of open mines area (pit) have led to a 75% drop in its personnel, from 14000 in 1980 to 5853 in 2006. Since then, the issue of employee recruitment has become the main source of conflicts affecting the relationship between the government and the local community. In 2008, local communities (Redeyef and Moulares) protested against the corruption which characterized the recruitment competition in CPG.

b/ The access to and the quality of water supply:

As described above, the mining activity is both a polluting and an intensive water activity. During the last decade, inhabitants and farmers suffered a lot from the scarcity and declining of water quality; we have observed the development of the water's commerce; population living in the mining area bought water from sened. This situation, has triggered numerous and sometimes violent conflicts between local communities and the government (Metlaoui 1992, Moulares in 2012)

c/ The marginalization:

A large part of the population living in the mining area of Gafsa feel that they are marginalized by the government, they were deprived of the financial benefits of the revenues derived from phosphate, excluded from the decision-making process regarding the governance of the phosphate and possibly also suffering from the ecological and social impacts of the mining activity; This issue has caused repeatedly protests and became a bargaining tool to achieve political objectives.

2/ conflicts between local communities members (tribes)

Indicative repartition of the population according to tribes

Delegation	Metlaoui	%	Redeyef	%	Moulares	%	Mdhila	%
Tribes	<i>Ouled Bouyahia</i>	79	<i>Ouled Abid</i>	60	<i>Ouled Slama</i>	70	<i>Akerma</i>	40
	<i>Ouled Slama</i>	9	<i>Ouled Bouyahia</i>	30	<i>Ouled Bouyahia</i>	15	<i>Ouled Maamar</i>	40
	<i>Djridia</i>	8	<i>Djridia</i>	7	<i>Djridia</i>	14	<i>Ouled Yahia</i>	18
	<i>Others</i>	4	<i>Others</i>	3	<i>Others</i>	1	<i>Others</i>	2

Source: by the author (2015)

As shown in the table above, the population of the mining area of Gafsa is heterogeneous and very diverse; as a consequence, the probability of triggering conflicts is very high. In 2011, we have seen in Metlaoui bloody conflicts between Ouled Bouyahia and Djridia (13 dead and more than 100 injured), the same thing in Mdhilla in 2012 between Ouled Maamar et Akerma (2 dead and more than 30 injured). Among the issues causing the triggering the social conflicts between the local community members are:

1/ The employment:

Usually protests and disputes arise when members of a tribe or people coming from other regions get more posts in CPG than members of others tribes. The second group protest to the mining company for prioritizing the first group in the employment recruitment process. In order to avoid such conflicts, The

CPG has introduced a quota system; jobs are distributed according to the number of population of each tribe.

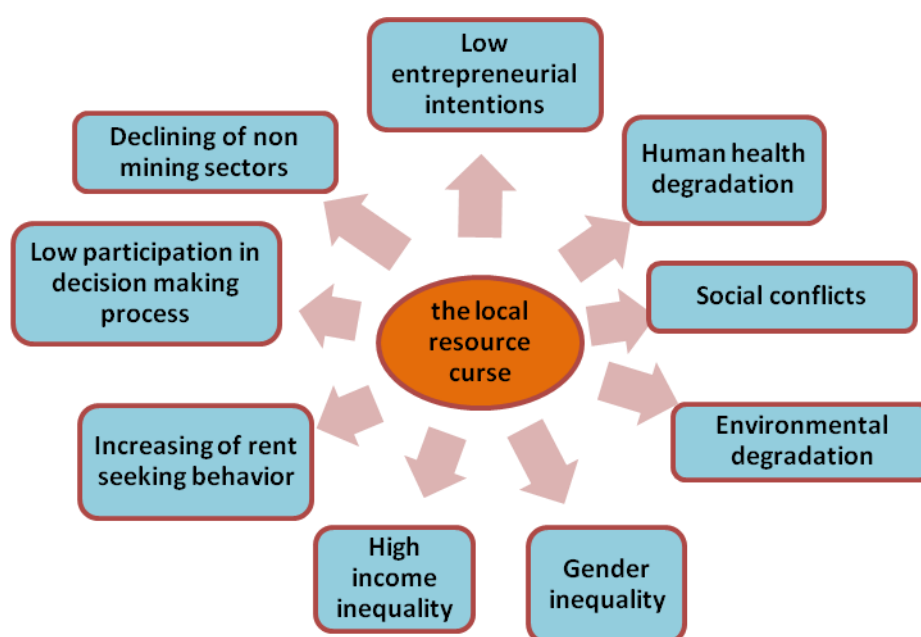
2/ **The distribution of the mining company’s community development programs(*FRDCM* *):**

Some of the local community members have obtained more community development programs while other members have received fewer programs. They complain about unfair distribution, this has given rise to jealousy among the local community members which could trigger conflicts between them.

* *FRDCM* is a fund created by the CPG in order to encourage local people to create their own projects.

3/ **The land property:**

When the CPG plan to expand its operation area, conflicts arise between the local community members who may welcome a new mine and those who may oppose it, such type of conflicts happened in Mdhila in 1920’s.



Source: by the author

Conclusion:

From the symptoms identified above there is evidence that the mining area of Gafsa suffers from a local resource curse, the phosphate mining is not a blessing but is a curse. It has caused adverse impacts (Economic, social and environmental impacts) on local communities. The government must act rapidly by taking the appropriate and the effective measures before the situation deteriorates further and becomes uncontrollable. The public governance and the transparency of the mining sector, the corporate social responsibility of the CPG and the mine closure planning are among the important points that must be considered when formulating these measures.

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