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## *Kromi çan bllokadën* – Albanian chromium mining revisited

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### Abstract

Chromium mining was one of the main economic pillars of socialist Albania. In the 1990s, in the wake of the economic transition, extraction nearly stopped altogether. However, chromium mining has undergone a certain revival since the beginning of the 21st century. Its background, context, problems and perspectives are highly diverse. In the following paper, these aspects will be assessed in a differentiated analysis and an evaluation from the position of a critical resource geography. On the one hand, chromite ore is exceedingly rare and highly valuable, which determines both global demand and economic dependencies. On the other hand, inefficiency, low levels of professionalism and widespread informality hinder a renewed economic valorisation of chromium as a resource. The study follows the commodity chain of chromium. Besides macro- and microeconomic issues, a variety of social and geographical aspects as well as the influence of variables relating to resource governance are discussed, both based primarily on qualitative field research. In addition, issues relating to competitiveness and perspectives on settlement and regional development are critically examined.

### Zusammenfassung

Chrombergbau war eines der wesentlichen ökonomischen Standbeine im sozialistischen Albanien. In Folge der Wirtschaftstransformation kam die Förderung in den 1990er Jahren nahezu zum Erliegen. Seit Beginn des 21. Jahrhunderts erlebt der Chrombergbau ein Revival, dessen Hintergründe, Kontexte, Probleme und Perspektiven äußerst diversifiziert sind. Sie werden im Folgenden im Sinne einer *critical resource geography* differenziert analysiert und bewertet. Auf der einen Seite steht die Seltenheit und Wertigkeit des Rohstoffes; beides generiert Nachfrage auf dem Weltmarkt und definiert entsprechende Abhängigkeiten. Auf der anderen Seite behindern mangelnde Effizienz, geringe Professionalität und weit verbreitete Informalität eine neuerliche volkswirtschaftliche Inwertsetzung der Ressource Chrom. Die Studie folgt der Wertschöpfungskette Chrom. Neben Aspekten betrieblicher Transformationen werden, vorzugsweise auf der Basis qualitativer Feldforschungen, gesellschaftliche und raumstrukturelle Kontexte sowie Einflüsse der Variablen der Ressourcen-Governance thematisiert. Darüber hinaus werden die Konkurrenz- und Wettbewerbsfähigkeit sowie die Perspektiven der Regional- und Siedlungsentwicklung an Bergbaustandorten kritisch hinterfragt.

**Keywords** Chromium mining, transition, glocalisation, critical resource geography, communist new towns; Albania

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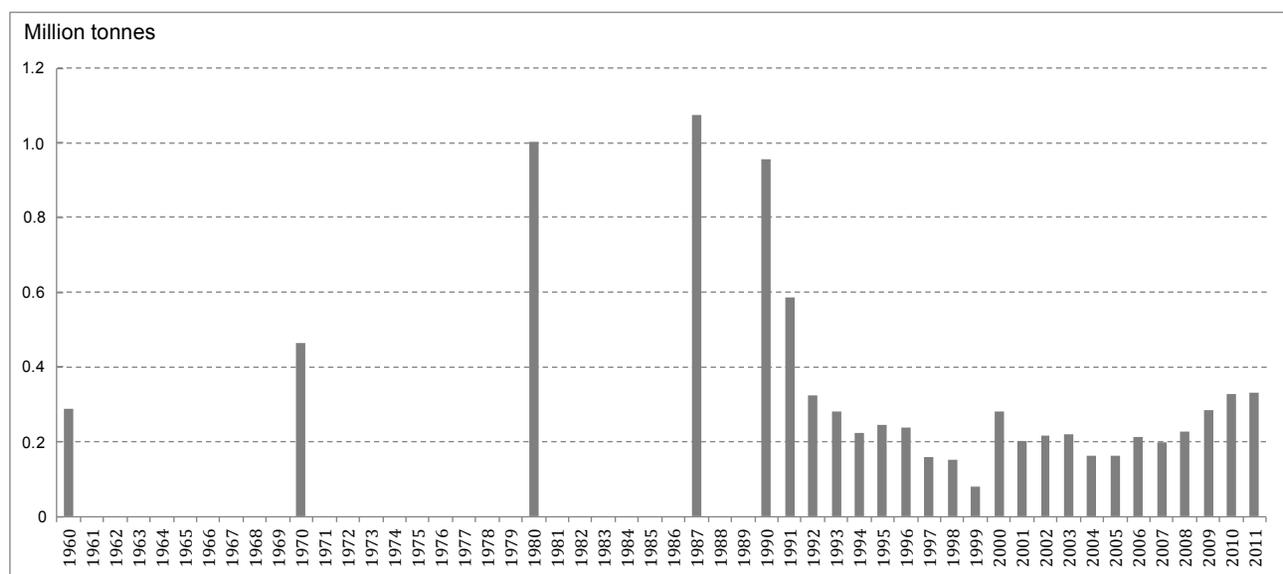
*“Kromi çan bllokadën”* [Chromium against the blockade]

**1. Introduction: the problem, the research question, the concept**

*“Kromi çan bllokadën* – Chromium against the blockade” was one of the striking propaganda slogans of the 1980s in late socialist Albania. The country felt constricted in its development potential by its immediate neighbours, and especially from its former trading partner USSR. For this reason, the Albanian economic policy gradually committed itself to auto-centric development. Chromium played a leading role in the implementation of that endogenous strategy in this largely isolated, agrarian and technologically backward country. The resource chromite ore was one of the few opportunities of acquiring urgently needed foreign currency to overcome the “development blockade”. Deposits in the peripheral mountainous regions in the north and east were subsequently developed and the resource supplied to the global market, but mostly as unrefined raw material. Consequently, the country became the third-largest exporter of chromite ore worldwide (*Schappelwein* 1993: 381). One crucial factor here was the strict implementation of a socialist system based on a flawless Stalinist orientation, which means using extensive material, personal and financial resources and undersupplying consumer goods to the population.

The political upheaval of the 1990s and the renunciation from the socialist system contributed to a complete shortfall of the organisational and financial framework of the industrial structure in Albania. Industrial activity, including chromium mining, rapidly dwindled away to almost zero. The mining regions in Albania’s north-eastern periphery experienced existential problems, which was to a lesser extent due to the quality of the raw material, but ultimately to the inefficiency of the extraction as a result of the immanent weaknesses of the socialist system in the valorisation of the country’s resources. Recorded output (*Fig. 1*) proves that a certain restructuring of chromium mining only occurred in the last decade. However, the restructuring was geographically extremely selective and played out within a very special economic and social framework, not least because of its past history. In the following, three leading research questions help to highlight resulting problems such as permanent inefficiency, persistent informality and corresponding interdependencies on different political, economic and social scales:

Firstly, this was influenced by stability and dependency, in particular the extent of the “socialist legacy” resulting from extreme isolation and a subsequent transformation path characterised by intensive “shock treatment”. In contrast to that, “the persistent need for external resource inflow” and the “dependence on external capital” (*Kaser* 2001: 627, 631) are still central lines of continuity in the history and development of the Albanian economy.



*Fig. 1* Output of chromium mining in Albania. – Source: *Schappelwein* 1991: 148; *Steblez* 1994: 18; 1995: 4; 2000: 2.7; 2004: 4.9; *Brininstool* 2010: 2.3; 2013: 2.2

Secondly, referring to the debate on globalisation, the question of interlinking local with global becomes more and more relevant given the recent turbulent past, rapid westernisation of the country and the connection with Albanian chromite extraction. With all its economic, social and geographical implications and interdependencies, this industry can almost be called a paradigmatic example of the variability of spatial formations under the auspices of “glocalisation” processes (Robertson 1995).

Thirdly, the “renegotiation of the relation of the global, regional and local level” (Reuber 2012: 221) includes in particular the economic geography dimension of spatial and institutional (re-)scaling (Swyngedouw 1992, 1997) beyond the debate in social sciences (loc. cit., Robertson 1995).

The concept of our study follows the basic approach of political economy. We analyse the contribution of the chromium resources to national, regional and local development at a social, political and moral level (Dicken and Lloyd 1990: 367).

In terms of a contemporary “economic geography research agenda” (Bridge 2009: 267), we discuss in detail the role and legacy of knowledge, scarcity, governance and sustainability, and highlight these implications under the precept of evaluating the ascertained results, which actually involves analysing organisational forms and the actions of key protagonists at a micro-economic level. From a macroeconomic perspective, this involves in particular the issue of connectivity with the global market and the changing significance of chromium mining for Albania. Conversely it involves aspects of resource governance, namely approaches for the regulation of the commodity chain.

Both perspectives form the conceptual basis of an empirical case study carried out in northeastern Albania in April 2013. We eventually follow the value chain of chromium from the ore deposits to the gateway to the global market at the port of Durrës. Information from interviews with representatives of local and national authorities as well as managers and employees from the companies involved was contrasted with impressions from local observation and media reports. A differentiated picture therefore emerges of an economic sector that on the one hand holds economic potential in an otherwise unprosperous and marginalised region, but on the other hand bears high economic and social risks.

The study aims to present the background to and the specific course of the most recent revival of chromium mining under the current institutional and political conditions, which are completely different to those of its period of origin. In the wake of stability and change in forms of organisation and production as well as in the value chain, the selected example is especially suited to demonstrating the variability and vulnerability of socio-spatial formations. This is true of interdependencies between different spatial levels and scales as well as the way in which the global scale determines and affects the local scale. Following the philosophy of a critical resource geography (Bridge 2009: 267) this analysis of chromium mining and resource-dependent regional and local development trends in Albania may serve as a contribution to the study of the political economy of raw material extraction in a transitional context.

## **2. Remarks on the political economy of resource geographies during post-socialism**

Years ago, (neo-)classical locational theories of the early 20th century were primarily concerned with natural resources and especially the deterministic effect on economic locations and industrial formations. Modernisation and dependence theory debates of the 1950s and 1960s dealt with the question of availability of natural resources and the power constellations relevant to their exploitation. The following more recent economically and politically informed geographical research concentrates mainly on two topics that are more or less related: One is the debate on natural resource management (Mitchell 1989), which occasionally makes special reference to rare metals (Reller et al. 2013). Another one emphasises natural resources as conflict potential and a catalyst for war, civil strife or nepotism (among others Auty 2004; Le Billon 2004; Doevenspeck 2012; Andrews-Speed et al. 2012).

But besides the last-mentioned topics, general interest in the geography of natural resources appears to be declining in the post-Fordist era, at least apart from the so-called carbon economies (Bridge 2011). However, Ostrowski's (2013: 114) statement that “extracting industries [have been] missing from the political economy analysis since the 1970s” may underestimate the status quo. But it applies equally to the post-socialist transition period – just the hydrocarbon geographies of the

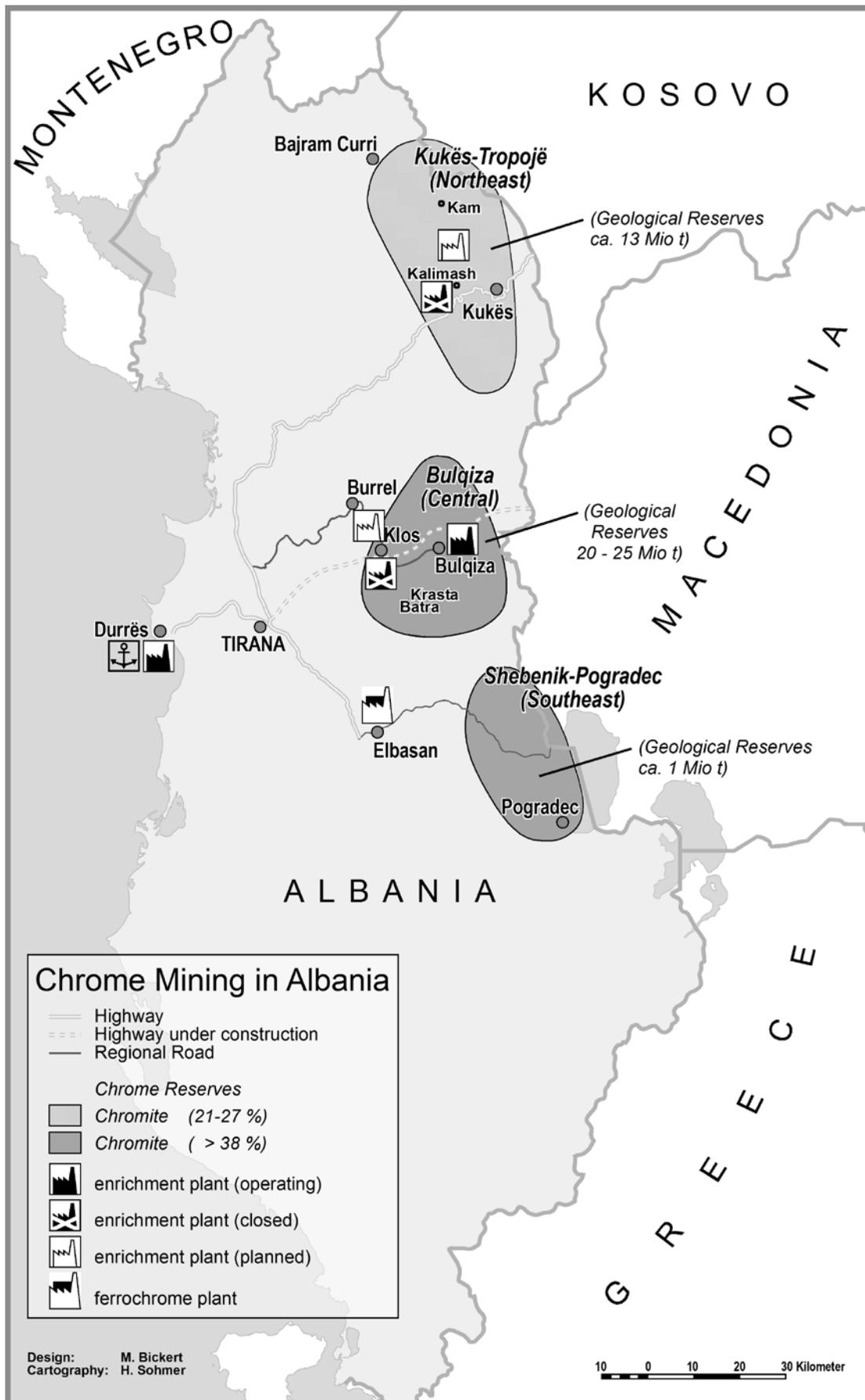


Fig. 1 Chromium mining areas in Albania and relevant transport infrastructures

Soviet Union and its transition were and continue to be particular objects of research interest (see *Kryukov and Moe 2013a, b*). Studies on single phenomena of transition in other mining sectors, such as that of *Waack (2009)* or thematic readers such as *Dorian et al. (1993)*, however, are an exception.

Theoretical approaches to the geography of natural resources continue to focus on the resource curse (*Auty 1993; Sachs and Warner 1995*). This is the paradox that economic development, especially in resource-rich countries, is often relatively poorer than would be expected in view of their natural resources (see *Sachs and Warner 1995; Auty 2001*). On the other hand, as early as the 1930s *H.A. Innis* demonstrated with his staple theory how the economic development of a country can benefit from single staples like furs, grain, minerals and fuels, using the Canadian example (e.g., *Findlay and Lundahl 2001: 100*). The approach was then much criticised and fell into oblivion later on (*Tamaschke 1980*). Nevertheless, *Innis* refuted *ex ante* the hypothesis of dependency often expressed and used ubiquitously in connection with resource extraction and passivity and marginalisation of the dependency theory (*Bone 1992: 132*).

A "new economic geography that raises socio-spatial questions on resource extraction" (*Bridge 2011: 821*) is more productive regarding the techniques for re-writing spatial and social practices in the resource geographies in the context of post-socialist transition. *Bridge (ibid.)* suggests amongst others the topics "cartography" and "ethnography". We follow this re-adjustment and offer a "cartography of reserves that territorialises and fixes chromite in space" (see *Fig. 2*), which is based on the example of the town of Bulqiza as an ethnographic field, supplemented by the component of livelihood and its variability.

The example of chromium mining in Albania feeds similar debates, even though Albania is neither a resource periphery nor a mineral economy. Nevertheless, resource extraction serves "as an agent of regional development" there (*Bridge 2008: 391*). However, mineral extraction is a "uniquely difficult form of development, a view that has made mineral resources something of a 'pariah' in development theories" (*Bridge 2008: 391*). *Bridge's* three key terms (agent of development, uniqueness, pariah) are highly relevant in connection with mineral extraction in a country like Albania. This is perhaps all the more valid because Albania, in view of its particular past,

has so frequently been seen as a 'laboratory' for spatial research and transition (e.g. *King 2005*). This applies especially to manufacturing and mining, where drawing parallels with other contexts of transition is virtually impossible: Other economies of Eastern and Southeast Europe (i.e. Yugoslavia, Romania, Bulgaria) had already adopted a much more global position than Albania during socialism, and they were much more competitive because of their technical infrastructure.

### 3. Why chromium? genesis and application

Chromium and chromium compounds are used in a wide range of technical applications such as tanning, as a dye, or especially in steel refining due to its high strength and heat resistance. Chromite ore is a stock resource, i.e. a scarce, local, exhaustible and non-renewable mineral of global economic significance. *Cum grano salis*, with these characteristics chromite ore resembles the so-called rare earth elements, whose strategic importance is currently strongly on the rise. The main deposits and mining areas are located in South Africa, Kazakhstan and India (*Mati 2012*). Of Albania's chromite deposits, which are mined there and exported globally as unprocessed or enriched ore, the most important customer is currently China, accounting for 75 % of exports (*Kavina et al. 2010*).

Albania's chromite deposits are a result of the dinaric-hellenic fold mountain orogeny. The so-called Internal Albanides are seen as a continuation of the foot of the Rhodope Mountains (*Lienau 1993: 2*). They consist mainly of ophiolitic-basic and ultrabasic metamorphites from the Triassic and Cretaceous periods, the latter being especially important for chromite deposits. Such serpentinites also form the massif of the eastern Mirdita zone around Bulqiza, where the highest quality chromite can be found. The area of Tropoja (prefecture of Kukës) and central eastern Albania (Region of Shebenik-Pogradec) (*Lienau 1993: 3; Frasheri et al. 2009: 13ff.*) are known for smaller fields of comparably low quality. Chromite in Albania contains 19-54 %  $\text{Cr}_2\text{O}_3$  and 12-13% FeO (*Schappelwein 1993: 381*). The reason why it is so competitive globally is because rust-free, acid-proof and heat-proof steels can be produced even if the FeO-ratio is 3:1. Generally, a distinction is drawn between rich chromium with more than 40 %  $\text{Cr}_2\text{O}_3$  in the ore and poor chromium with less than 30 %  $\text{Cr}_2\text{O}_3$  (*Mueller et al. 2013: 85*). The latter needs to be mechanically enriched before further processing.

#### 4. The development of Albanian chromium mining<sup>1</sup>

Because of its rich mineral resources, the Italian geologist and palaeontologist *Paolo Vinassa de Regny* produced the first geological map of northern Albania (*Vinassa de Regny* 1903) during the Ottoman period. The official regulation of mining began during the reign of the Albanian monarchy (1928-1939), and in 1929 the first mining law was passed (*Mati* 2012: 9). The first chromite was mined in the late 1930s in Bulqiza in northeastern Albania. Italian companies expanded this mining activity at the beginning of the Second World War (*Hall* 1994: 105).

During the communist period (1945-1990) and especially after 1961 (following the break with the USSR) the focus of economic development moved to expanding heavy industry. The country had very little industry of any sort at the time (*Hall* 1987: 40ff.; *Schappelwein* 1991: 149; *Kaser* 1993). The initially close political connections with several COMECON states (mainly the Soviet Union, Poland and the GDR) and later, until 1978, with China were extremely useful in obtaining the necessary technical expertise. Mining was very important to the concept of intensive industrialisation because from the very beginning, and increasingly so after 1978, the explicit aim was to develop closed production cycles.

In Albania, 285 exploitable mineral deposits of chromium ore were discovered. With an estimated 37 million tons, Albania has the fourth-largest deposits worldwide (*Mining Journal* 1992). The industrial exploitation of chrome began on 18 February 1968 in Bulqiza. Bulqiza is one of the 42 “new towns” (*Bërzhoholi* and *Qiriazhi* 1986: 65) built in socialist Albania before 1987 – a state-run activity which fits perfectly into stage 2 of *Sjöberg’s* model of “urbanisation under central planning” (1999: 226f.). Most of these towns were created in connection with mining and industry, and some as agricultural towns (*Kehr* 1984: 23; *Hall* 1986; *Sjöberg* 1990: 200ff.; *Hall* 1994: 93). Bulqiza experienced very dynamic growth. Thanks to the state-organised settling of skilled labourers and their families, its population grew from 200 to 7,000 by 1990 (*Schmidt-Neke* and *Sjöberg* 1993: 482). The number of industrial workers in the region grew from 30 in 1948 to 12,000 in the 1980s (*Kuvend tekniko-shkencor* 2007). Between 1985 and 1987, a new settlement for roughly 1000 families called New Bulqiza was built outside the existing town (*Daci* 2008: 84). Other settlements in the region also grew in connection with

chromium mining (e.g. Kukës) or were newly founded, geographically bound to the mineral deposits (Kali-mash, Kam, Bater, Krasta or Klos; see *Fig. 2*). The small settlements in particular are considered typical mining towns, i.e. mono-functional settlements with only a few urban functions and low centrality.

Since the beginning of the 1970s, Albania’s annual production of chromium almost doubled. By the late 1980s it was slightly over 1.1 million tons (*Sandström* and *Sjöberg* 1991: 941) whereas between 1.5 and 1.6 million tons were planned for 1990 (*Sandström* and *Sjöberg* 1991; *Schappelwein* 1991: 148). With a share of around one third of the national budget, the sector’s contribution to the national economy was enormous (*Hall* 1994: 23).

These figures hide the inefficiency of the “industry”, for what was involved in reality was primary mining, carried out using relatively simple means. The ore was exported in enriched form or even unprocessed and transported to the port of Durrës by road. An enrichment plant was built in Klos to which the ore from the mines in Bulqiza could be delivered through a system of galleries, making use of the topography and differences in altitude below ground. However, the railway from Klos to Durrës was never completed and so the ore still has to be transported by road to this very day. Contemporaries tell of entire caravans of heavy vehicles travelling – generally at night – along the narrow, poorly constructed roads towards Lower Albania. Nevertheless, the greater part of the added value in the production chain was (and still is) created outside Albania. Even in the late 1980s, the aim of closed production cycles was a dream of the distant future.

#### 5. The microeconomic transformation of the chromium industry – taking stock

##### 5.1 The transition crisis in chromite mining

Following a peak in the mid-1980s and the onset of stagnation in the late 1980s (*Sandström* and *Sjöberg* 1991: 935), Albania’s chromium production, like all other industrial activities, declined dramatically with the political upheaval of 1990/91 (*Schnytzer* 1993: 337ff.; *Becker* and *Göler* 2002: 2f.; see *Fig. 1*). In the course of the 1990s, extraction fell to an insignificant 80,000 tons p.a. (*Steblez* 2000: 2.1). Without state-guaranteed organisation, but under free market conditions, profitable production was not possible given

the existing local infrastructure. The plants' modest capital stock and a series of bureaucratic obstacles of the early transition phase (total turnover tax in the chromium industry was 105 % [Hall 1994: 252]!) had a destructive effect. The final straw was a fall of 50 % in the world market price for chromium. Foreign investors did show some interest, but their plans, as in the case of a South African 80-million-US-dollar project in Kam-Tropoja (Hall 1994: 231, 252), never advanced further than mere statements of intention.

The privatisation of the state-owned enterprises began when a law to regulate the process was passed in 1994. Six years later all of the Albanian chromite mines were privatised. Production has since recovered to approximately 0.3-0.4 million tons p.a. but is still far below the former level (Fig. 1). Chromium production has lost its economic significance and fails by a long shot to occupy the position formerly planned. The manufacturing sector only accounts for 10.5 % of the Albanian GDP. Mining contributes to about one eighth of the industrial value added – i.e. barely 1 % of total GDP (see Brininstool 2010: 2.1).

The post-privatisation revival of Albanian chromium production after 2000 is to a lesser extent connected to endogenous factors than to the rise in world market prices for most raw materials. This is also true for chromium, due to increasing global demand on the one hand and due to its scarcity on the other. It is currently (mid-2013) traded at around 300 to 350 USD (or € 220 to € 260) per ton. However, prices have fallen significantly from a peak in mid-2011, when 350 to 450 USD (or € 260 to € 330) per ton were achieved (Euromoney Institutional INVESTOR PLS 2013). Because of the relatively high market value, former chromite mines are selectively reactivated.

Nevertheless, a large proportion of former mines remains closed. The former mining areas in the north-east (Kukës, Kalimash, Kam-Tropoja) and southeast of Albania (Librazhd/Shebenik-Pogradec region) are more or less abandoned, apart from some small, sometimes illegally operating companies. Extraction of poor chromium there is not profitable because of an additional step of enrichment using old, outdated equipment. This is true even for the big companies that concentrate on central Albania (Bulqiza, Bater, Burrel, Klos), where chromium is mined and refined in significant quantities. Currently 262 chromium mining licences are on the market in Albania, 50 % of them in the Bulqiza region (see AKBN 2012: 09). This

is understandable in view of the fact that the best quality chromite is found there and the largest deposits are also believed to be located there. Of an estimated total 36.9 million tons of chromite reserves, 20-25 million tons are found in the Bulqiza region (AKBN 2012: 14; interview with ACR, 2013). There are many active chromium plants in the neighbouring communities of Batra, Klos and Krasta recently founded by both small and medium-sized companies. However, the main protagonists in the Albanian chromium industry operate in Bulqiza. All of these are former state-owned plants that have been privatised, with strong organisational and operational continuities.

## 5.2 Large-scale privatisation

One of the best examples of large-scale privatisation is ACR (Albanian Chrome Sh.p.k.). As successor to the former state-owned combine AlbKrom it is still the most important protagonist in the Albanian chromium industry. It has had an eventful history in the short time since privatisation.

Parts of AlbKrom were tendered for privatisation as early as 1996 (Ministria e Burimeve Minerare dhe Energjitike 1996) and subsequently run as a kind of joint venture by the Albanian state and an Italian investor. In 2000/2001 AlbKrom passed into the ownership of the Italian DARFO S.p.A. (Mema and Dika 2005: 214). DARFO in turn sold it to the Austro-Russian consortium DecoMetal (DCM) in 2007, even though DARFO had secured 30-year concessions for various chromite mines in central and southeastern Albania as well as the operation of the metallurgy plant in Elbasan (EBRD 2001: 17). The plant is the most important customer in the internal Albanian production chain; 25 % of its requirements are met by Bulqiza alone (Mueller et al. 2013: 84f.).

DCM attracted international media attention when some hundred miners, employees of ACR, went on strike in Bulqiza in July 2011 following numerous, often fatal accidents in mines. The workers' demands for safer working conditions and better payment were only met after several weeks when DCM agreed to a 20 % pay rise. According to a company statement, ACR workers were then earning around € 500 per month, considerably more than the average Albanian wage of € 255 (as of 2011; see INSTAT 2013). Nevertheless, future strikes cannot be ruled out because of dangerous working conditions and the failure to modernise the mines.

After a few less successful years, DCM in turn sold its shares in ACR by means of a subcontract to an Albanian investor, *Samir Mane*, a colourful and well-known entrepreneur with a highly diverse portfolio. His Balfin Group has been the main shareholder in Albania's biggest mining company since the beginning of 2013. According to their figures, between 50,000 and 60,000 tons of chrome ore are extracted annually, which is a quarter of the annual figure for the Bulqiza region of about 200,000 tons p.a. and thus well below the 1985-1990 levels of up to 400,000 tons p.a. The number of employees has also declined rapidly from 6,000 in former AlbKrom to 700 in ACR.

The enrichment plant in Bulqiza (Fabrika e Pasurimit të Kromit Bulqizë Sh.p.k.; *Photo 1*) is another larger company, employing 60 workers. A simple mechanical procedure is used to turn poor chromium into a 48-50 % concentrate. The annual processing figures are cited as around 240,000 tons of ore, equivalent to 110,000 tons of concentrate (see *Lekaj et al. 2010: 1*).

There is also an Albanian-Turkish consortium TurAlb, a company employing fewer than 100 employees, which takes up 20-25 % of the chromite extracted in Bulqiza, as well as numerous small companies with so-called micro-licences.

### 5.3 Micro-licences as a tool for promoting the economic middle-class

Another central state regulation for the restructuring of chromium mining was the granting of micro-licences based on Law 10081 "On licences, authorisations and permits" passed in 2009 (see AKBN 2012: 23). This law defined the conditions and allocation practices regarding such licences. The realisation that large-scale, en-bloc privatisation was bound to fail appears to have been behind this decision.

The micro-licences create a new incentive which leads to the valorisation of resources by the smaller firms, resources which under the prevailing conditions would otherwise be left unused. At the same time the authorities wished to discourage the widespread and highly dangerous practice of informal mining and the collection of poor chromium from slag heaps by private individuals. The licences were intended to help formalise these practices and strengthen the regional labour market.

In theory they made one-man mining enterprises possible and in fact created quite small-scale formations in a sector where the big players on the global market typically operate. Small firms in Bulqiza, of which there are about 80, generally engage between one and a maximum of ten permanent employees. Together they offer jobs to roughly 500 people. Wages of around € 300 per month are slightly higher than the Albanian average. These enterprises extract up to 4,000-5,000 tons p.a. and account for about 15-20 % of the total amount extracted in the Bulqiza region.

Micro-licences do not provide a simple or direct market entry into the Albanian chromium industry. Indeed, the technical and legal obstacles laid down by the law are comparatively high. Mining permits are allocated by the state agency for natural resources (AKBN; Alb.: Agjencia Kombëtare e Burimeve Natyrore), which is under the responsibility of the Ministry for Economy, Trade and Energy. A detailed investment plan has to be submitted and 30 % of the investment sum deposited as a security. Furthermore, evidence of professional know-how and qualifications must be presented. Any required information is provided by a few professional consultants. As technical knowledge in mining is crucial, such consultancy services are provided by former mining engineers, who possess formal qualifications gained during former socialist times.

Mistakes made by applicants or the authorities (we assign them to post-socialist dysfunctions and a widespread attitude of *laissez-faire*) occasionally lead to serious conflicts between mining companies. For example, on several occasions, inaccurate descriptions or even mistakes in the allocation of mining licences have led to horizontal overlaps between mining areas. In the past this has caused a number of conflicts (and even fatal shootings) between *per se* legally entitled licencees.

There are just as many obstacles on the financial side: According to one of the external advisors, the smallest enterprise active in Bulqiza invested € 250,000 to acquire a micro-licence. On average, an investment sum of as much as € 600,000 is necessary. For SMEs in Albania, these are relatively high amounts which are also subject to considerable risks. In addition to various business uncertainties, licences may be revoked if the AKBN discovers irregularities during its annual inspections, e.g. in the implementation of the investment plans. Reportedly, more than 100 licences have been revoked in the past four years. Even the major protagonists can be affected, for example, ACR



*Photo 1 Enrichment plant in Bulqiza (Fabrika e Pasurimit të Kromit Bulqizë Sh.P.K.). Photo: Daniel Göler, April 2013*

had only invested 1.5 million of the stipulated 20 million ALL in urgently needed modernisation measures. As a result of the actions of the former owner, DCM had to pay a fine of € 400,000 (56 million ALL) to the Albanian state (Koleka 2011).

#### 5.4 Spatial differentiations

The recovery of chromium mining is mainly an expression of the interaction of variables like different qualities of raw material, the geographical location of deposits and the quality of infrastructure, as well as paths of post-socialist transition and privatisation. As part of the socialist legacy, this results in a clear geographical differentiation with “winner” and “loser” regions.

Most of the communist new towns in the periphery have been hit hard by transition. Some of them have become ghost towns within a short period of time. Even larger settlements like Kukës, Burrel or Bulqiza also felt the negative effects of transition very clearly, although Bulqiza offers a good example of local restructuring.

#### *“Boom town” of Bulqiza ...*

The population of Bulqiza also fell as jobs in chromium mining were lost, and it continues to fall. In the five years between 2002 and 2007, the population of the entire municipality dropped by 25 % (from 15,442 to 11,587 inhabitants; see Bashkia Bulqizë n.d.: 7). For the Albanian census in 2011,

Bulqiza was not even listed as a larger town with more than 10,000 inhabitants (INSTAT 2011: 20).

Still, the most recent exogenously induced rise in the world market price for chromium led to an intensification of chromite extraction, put an end to the recessionary period and even initiated a mini boom in Bulqiza. This is evident in the town’s urban development. Consequently, in 2012 the municipality was able to tarmac the roads in the working-class district of New Bulqiza, which had only had gravel roads since it was founded in 1985, more than 25 years ago. This measure was funded using tax revenue from mining as well as income from the municipality’s shares in a total of 30 firms in the chromium industry. Only with the most recent change in the Albanian tax system and the decentralisation of industrial tax revenue has the municipality been able to benefit directly from local mining enterprises. According to the mayor, the municipality receives 25 % of profits on the entire extraction within its jurisdiction, giving it some scope to act and invest. A certain number of new buildings and active construction sites pay tribute to this kind of development.

Meanwhile, workers have returned to the town, including specialists, and unemployment has fallen slightly. The town’s mono-structural nature has not changed. On the contrary, the mayor estimates that of roughly 3,300 households in the municipality, around 80 % have at least one member employed in chromium mining. The wealthy holders of micro-licences and mine operators generally do not live in Bulqiza. Most of them live in the metropolitan region of Tirana and Durrës or abroad.

... vs. "ghost town" of Kam?

In comparison to the relative vitality of the chromium industry in central Albania, a less positive trend is evident in the other former mining regions in the northeast and southeast of the country. In the Kukës district, we cannot report any noteworthy recovery of mining or any other positive effect relating to the increased importance of chromium. The enrichment plant near Kalimash was once a leader in chromium extraction in the northern part of the country but the plant has been shut down for years (*Photo 2*). For a time, investors from China and South Korea showed some interest, but immediately withdrew after examining the conditions on site.

In spite of reserves of almost 13 million tons of chromite in the Tropoja-Kukës region (see AKBN 2012: 14), only about 100 micro-licences are currently actively extracting chromite there and even then, they only operate very small enterprises. This is primarily due to the low mineral content of the chromium ore there. The Kukës-Kalimash region is obviously unable to compensate for this disadvantage in spite of the markedly improved accessibility to the region since the completion of the North Alba-

nian motorway. A revival of chromium mining such as that seen in Bulqiza beyond the current small-scale, rather unprofessional standards, is not to be expected here. On the contrary, further regressive tendencies in the settlement system are expected.

The small settlement of Kam was the youngest new town and a quintessential socialist mining town. The mineral deposits in the northeast (other than chromite, mainly copper) were the reason for a large-scale state settlement policy between the 1960s and 1980s along familiar lines. Today, Kam is more or less a ghost town. The majority of its former inhabitants have long since migrated to the Tirana agglomeration since the ban on internal migration was lifted and the mining industry in the inhospitable northeast began to decline. Those who remained have changed their profession from mining (as engineers and mine workers) to shepherds. In 2002 there were 43 official residents left, who for the most part made their living from subsistence farming (*Göler 2005: 63ff.*). Albanian media currently report 5 to 6 families with about 20-30 members currently residing there.

According to a district councillor from the Kukës region, there is no evidence of workers returning to



*Photo 2 Ruins of mining site in Kalimash (Kukes District, northern Albania). – Photo: Daniel Göler, April 2013*

take up employment in chromium mining, nor has the town received any appreciable tax revenue from chromite extraction. In spite of the presence of large geological chromite reserves (6.8 million tons; see AKBN 2012: 14) only about 300 workers are currently employed in the chromium industry in the region. During the peak of chromite extraction in the socialist period, between 700 and 800 workers were employed in chromium mining. It should be added that the town of Kukës has a much more diverse economy than Bulqiza, and because it is the seat of the regional administration (Prefecture of Kukës), employment in the public services is a stabilising element. Abandonment is mainly a phenomenon in small, mono-structured and peripheral settlements like Kam and others. At least, both local examples show evidence of the decline of chromium mining, not only from a cartographical perspective but also an ethnographical one as highlighted by *Bridge* (2009).

## **6. Contested territories – problems and conflicts in Albanian chromium mining**

### **6.1 Informality in chromium mining**

The collapse of chromium mining in the mono-structural new towns and the loss of work pushed many people, i.e. especially those who did not leave the region, into illegal or informal employment. The low levels of technology and the high proportion of manual input encouraged the development of generally widespread informality in chromium mining.

Before the introduction of micro-licences, mining had concentrated mainly on rich chromium. Numerous deposits were left untapped (e.g. in Bulqiza's mining region Zone "D", *Photo 3a*) and the slag heaps of the large companies also remained. The rise in the global market price of chromium combined with local unemployment and poverty caused people to see slag heaps and provisionally closed workings more or less as ready cash, which literally only had to be picked up off the ground.

Many people in the mining areas, often elderly women or children, can be seen at the side of the roads and on piles of rock gathering stones and nuggets into simple plastic buckets. The practice of searching through the slag heaps on the slopes just below the mine workings is also widespread even though it is considerably more dangerous because of the risk of rock slides. The same is true for work in official or even unofficial mines.

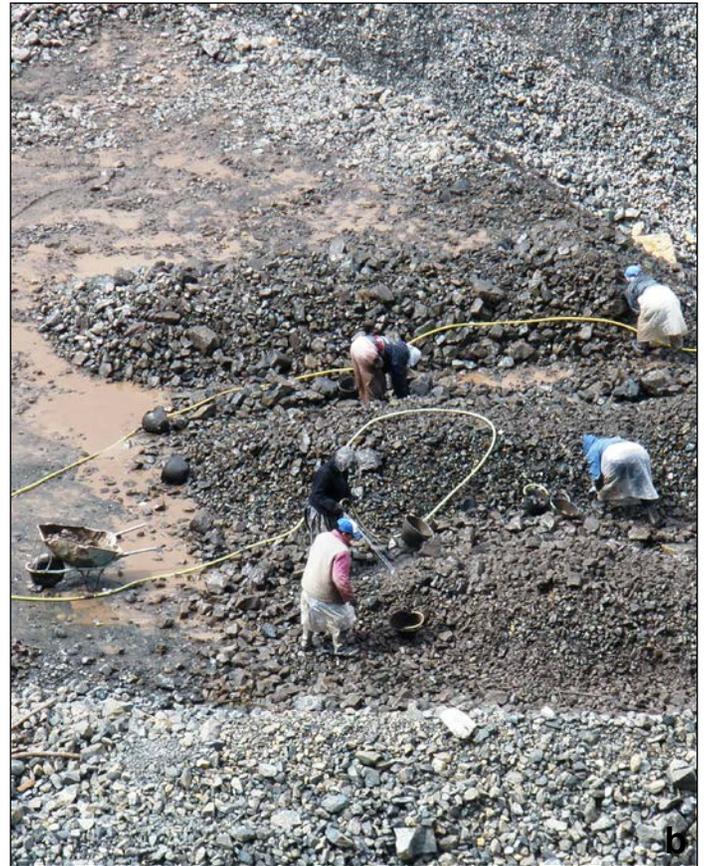
Regular media reports of deaths in and around the mines and the often archaic conditions demonstrate the dangers of both informal and formal chromium mining. Both show how mining is the major source of livelihood and influence on ethnography in Bulqiza.

At best, the informal supply of ore is ignored by the licenced enterprises, often apparently tolerated and sometimes even encouraged. According to the former chairman of the AKBN, the market for "infected chromium" (somehow comparable to African "blood diamonds") and its distribution paths are extremely diverse. Even large mining plants permit external workers to enter the mines and buy the rocks they have collected. Even the rocks gathered on slag heaps are bought by official firms and thereby formalised within the production chain. Sometimes informally collected ore is added directly to truckloads at night. Experts in Kukës estimate that the five licenced firms in Kalimash only produce 30 % of the actual amount extracted and that 70 % comes through innumerable informal channels.

Thus informal chromite extraction does provide an important opportunity for employment, but at the same time it helps to maintain the already low wages. Mining companies will not be motivated to modernise until such a time that cheap labour no longer compensates for the lack of technology. The primary aim of the micro-licences, i.e. the transformation of informal activities into (formal) SMEs, has only been achieved to a very limited extent. It is only possible to speculate about further reported obstacles in the form of corruption in the allocation of licences or due to the interests of those investors that really benefit from informal mining. The high levels of investment necessary, combined with comparatively high risks, make it reasonable to assume that funds from illegal activities such as drug dealing and human trafficking are laundered in the chromium mining sector.

### **6.2 The production chain: How to reach the global economy?**

There are different ways for chromium to reach the world market from the Albanian mines. Rich chromium from the Bulqiza region is transported directly by lorry to Durrës and shipped abroad. There are several variants for poor chromium: Micro-licences from the Bulqiza region generally deliver to the enrichment plant there. In the Kukës region further transport to the enrichment plants in Bulqiza is far too expensive



*Photo 3 The “line of inefficiency”: The Albanian chromium industry is marked by outdated and sometimes archaic methods of mining and processing: a) extraction in Bulqiza’s “Zone D”, b) manual separation, c) transport by lorry, d) manual crushing, and e) loading onto container in the port of Durrës. – Photos: Matthias Bickert, Daniel Göler (April 2013)*

and for this reason, some producers sell their ore to nearby Kosovo. Alternatively, small amounts can be transported to Durrës, where there is another small enrichment plant. Enriched chromite is usually transported to Albania's only steel works (the former combine named "Steel of the Party" in Elbasan) where old electric arc technology is used to produce ferrochrome as a transportable aggregate with around 65 % chromium content. This is also exported through the port of Durrës. ACR is involved at least at this stage, as it runs the ferrochrome plant in Elbasan.

On the sometimes quite long transport routes, Albania's infrastructural problems once again play a role. Not so much in the Kukës region, which is located on Albania's only motorway that meets international standards. The closed enrichment plant at Kalimash would have a comparatively good location, except that chromium mining there is not particularly favourable because of the above-mentioned dominance of deposits with poor chromium, inefficient small mines etc. The better mining areas in the mountain regions of eastern Albania are still difficult to reach, in spite of persistent road-building. Bulqiza is actually only 40 km from Tirana and 70 km from the port of Durrës as the crow flies, but on the ground a distance of 130 km or 140 km has to be travelled on poor roads (*Photo 3c*). According to an expert statement, transport costs are around € 10 per ton. The pressure on the roads is also enormous, as the lorries are loaded with an axle weight of 8-12 tons and a total weight of up to 60 tons but unfortunately there are no alternatives at the moment. Recently the railway lines from the communist era were actually dismantled. The freight station at Klos, earmarked under socialism as an important link between the ore deposits and the world market, is now abandoned. The direct road connection with a tunnel to Tirana (Rruga e Arbërit) currently under construction will improve the regional accessibility of the entire area significantly. It remains to be seen whether this will also apply to the transport of chromite to the port of Durrës.

According to the shareholders, procedures at the port of Durrës are occasionally conflict-ridden. The shipping company just checks the weight of the ore, but not its quality. In the event of discrepancies, negotiations concerning quality and price are conducted between the Albanian mining companies and their customers abroad. Occasionally conflicts arise due to discrepancies between the declared and the actual chromium content in the shipped ore.

Regardless of the quality of the ore, the location or the company structures, Durrës is the final destination of the internal Albanian production chain as well as the gateway to the world market. Here chromium is exported as a raw material, concentrate or ferrochrome, mainly to China, India, Sweden and Turkey. Further processing or use of chromium in steel refining, a highly profitable part of the value chain, does not take place in Albania itself. The extension of the commodity chain in the country is one of the most urgent tasks for the national economic policy.

Onward transport is not without its difficulties as well, as the quantities shipped are small and the infrastructure of Albania's largest port is poor in comparison with the usual standards of overseas shipping. At the time our field work was carried out in April 2013, 50,000 tons of chromite ore were being stored in Durrës. The Albanian Stevedoring Company (ASC), one of the large freight companies, ships between 20,000 and 40,000 tons of ore and concentrate annually. With a depth of 8.2 m, the harbour is not suited to large cargo ships and a project for a deep water port with a depth of 17 m has just been launched. For this reason, chromite, which is usually transported as bulk goods, is loaded into 27.5 ton containers using mini wheel-loaders. Excessively large lumps of rock are broken down manually by low-paid casual workers using a pickaxe. The freight of container ships with a maximum capacity of 20,000 to 25,000 tons is then transported elsewhere, often in Piraeus, to standard size international container ships with a capacity of up to 300,000 tons (*Photos 3d and 3e*).

### 6.3 Chromium mining as an investment in the future?

The government is running a huge advertising campaign to enhance Albania's attractiveness for foreign investors. The aim is to attract more FDIs to the country with the assistance of the Albanian Investment and Development Agency AIDA (Agjensia Shqiptare e Zhvillimit të Investimeve). To this end, the business registration procedure has been simplified recently. Within only 24 hours and for a token fee of 100 ALL (€ 0.70), businesses can be registered at various local offices of the NRC (National Registration Centre; Alb.: Qendra Kombëtare e Regjistrimit), and for a further 100 ALL they can be licenced at the National Licencing Centre (see DIHA 2012: 12, AIDA 2013). Although the AIDA programme is available to both native and foreign investors, it makes things considerably easier for

foreign companies who are not familiar with Albanian procedures and customs. In the case of mining, however, this strategy has had only limited success so far. The fact that foreign investors hesitate for years indicates that the urgent need for modernisation in the mines, problems with infrastructure (mainly transport and an unstable electricity supply), general market insecurity and unclear information as to the total size of the mineral deposits, which has not yet been fully researched, are major obstacles to the entry of foreign investors into the Albanian market.

Their hesitation is understandable, because in addition to the reasons already mentioned, the quantities they can expect to extract are not that large in relation to the level of investment necessary. Profits of € 35-45 per ton of poor chromium were therefore possible on the global market as of mid-2013. If 4,000 tons p.a. are extracted, a gross profit of somewhere between € 150,000 and 180,000 p.a. can be expected, but this does not take into account running costs and taxes. Given the levels of capital required, it would take at least ten years to pay off this risky investment and planning such a long way into the future is simply not possible in Albania.

Recently, some more difficulties have emerged. Fluctuations in fixed energy costs, for example, complicate calculations of profit from chromium mining and distribution. As prices for electricity or fuel will rise in the long term, the energy-consuming melting process in Elbasan is becoming more and more expensive. A further fall in the price of chromium would make the operations of many micro-licences unprofitable, especially where they are mining poor chromium. At the moment, the intensity of chromium mining is closely coupled with the world market price and extraction levels are adapted to its variability almost instantaneously.

### **7. “Kromi çan bllokadën” revisited: Just another false dawn or the path to sustainable development?**

The collapse of the economy, a fall in employment and the simultaneous lack of alternative sources of income – the central socio-economic implications of the transition period were felt throughout Albania. The end of communism had extreme consequences in areas where economic determinism and mono-structures dominated. This was especially true in manufacturing and mining where the economic collapse was particularly quick and brought with it drastic consequences – not only for the “cartogra-

phy of reserves” (Bridge 2009), but also for the interconnection of territory and social practices.

In contrast to other Albanian mining activities, like copper mining, the chromium industry underwent considerable restructuring since the turn of the millennium. The stability, continuity, sustainability and spatial differentiations of this process should be examined carefully. It should be noted that most of the Albanian mining regions and towns only came into existence because of chromium mining. In this respect, post-socialist transition did not involve a dismantling of existing socio-economic and institutional structures, but rather economic restructuring and social transformation based on local conditions and affected by global influences. The basic organisation of this mining sector, which was marked by a strong dependence on the global market since its beginnings and still is today, stretches back to the socialist period. Both its locational planning and distribution as well as its technology are part of the socialist legacy, including the decision to process the ore in the vicinity of the mines primarily to reduce transport costs; at the time this was also an instrument of economic decentralisation (Hall 1987: 41). It is subsequently difficult to alter these decisions. From today’s perspective, they are actually a positive factor in the spatial development of Albania, with a general tendency for extreme regional polarisation (see Göler 2008). This is not the case with the latent lack of modernisation in public and private infrastructure and especially within the mines themselves. So far, the international investors have merely siphoned off local resources and production capacities without contributing appreciably to their modernisation. In spite of legal requirements, only the bare minimum is invested in the plants to keep them going. An additional problem and a consequence of wide-spread *laissez-faire* is the high level of informality in the mining industry, which in other countries is characterised by professionalism and efficiency, and is such a depressing feature of the economic transition as well as a living witness to the persistently high levels of social vulnerability in Albania.

It therefore remains to be seen whether the restructuring measures concentrated in and around Bulqiza are not just a spontaneous short-term reaction to changes in global market prices or actually constitute a sustainable economic perspective in a peripheral mountainous region, even if it is limited to the local and regional level. Even in light of the current economic boom in the chromium industry, Bulqiza appears at best to be a

globalised town with all the functional characteristics of a resource periphery and a correspondingly high level of dependence. In this context, Bulqiza is yet another example of "... how the image of a global village is but a simulacrum of a reality" (Swyngedouw 2004: 28). These deficits are linked to the general immaturity of the industry on a national scale. The establishment of a closed value chain in Albania itself – whether in chromium processing or any other comparable manufacturing sector – is but a remote prospect.

The transformation from a passive recipient of external capital to an active shaper of the outflow of one's own resources comes as a challenge for the Albanian chromium industry. In order to come to a conclusion, it is helpful to refer to the study's research agenda, especially with regard to the legacy of knowledge, scarcity, governance and sustainability. As far as the resource of "knowledge" is concerned, the country has a sufficient quantity of well-qualified human capital; our research has shown that this is especially true of localised tacit knowledge in the mining regions. With regard to the "scarcity" of chromite as a non-renewable natural resource, the country has sufficient and more importantly high-quality geological reserves, which by law are at least indirectly subject to state control. The concept of micro-licences did bring short-term local benefits (in the labour market and the reduction of undesirable informality) to national and local "governance" following the largely unsuccessful privatisation of the 1990s. At the same time, the concept reduces the potential of influencing prices on the global market and is diametrically opposed to efforts to create a suitable investment climate for international investors, for example which qualifies the demand for long-term socio-economic "sustainability". This type of sustainability is not evident in the constellation of investors, power and space in the context of staple Albanian chromium as outlined in the study.

Our findings imply that the central aim expressed in the historical slogan "*Kromi çan bllokadën*" – i.e. to use the resource chromium as a factor for endogenous development – cannot be implemented effectively four decades on and under entirely different conditions. On the one hand, the influence of a globalised economy is too strong, and, on the other hand, the local development blockade in the mountainous regions of central and northern Albania seems to be too persistent.

A comprehensive restructuring – not just a superficial renovation – needs essential modernisation

measures and most importantly the extension of the commodity chain. This approach may lead to a general diversification of employment and an economy beyond agriculture. Should this be achieved, the dependency, passivity and marginalisation hypotheses of the dependency theorists (see Bone 1992: 132) could be rejected for this case study. But, in Albania this still appears to be a distant prospect.

## Note

<sup>1</sup>Unless otherwise stated, the statistics cited in the following text are based on surveys made in the field, and in particular on statements made in the expert interviews carried out in April 2013.

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