

Report

nr 19

# Improving Working Conditions at Chinese Natural Stone Companies

SwedWatch, SOMO and IHLO



**SOMO**

**SWED  
WATCH**



SwedWatch is a non-governmental organisation that writes reports on Swedish business relations with developing countries. We write about different sectors and focus on environmental and social concerns. SwedWatch consists of five member organisations: The Swedish Society for Nature Conservation, Church of Sweden Aid, Education for Aid Activities, Friends of the Earth Sweden and Fair Trade Center. SwedWatch works in close collaboration with its counterparts in Scandinavia; FinnWatch in Finland, Norwatch in Norway and DanWatch in Denmark.

SwedWatch is financed by the Swedish Development Aid Agency (Sida). However, since 2007 SwedWatch has also conducted assignments for other parties such as municipalities or authorities in Sweden wanting to monitor their supply chain for certain products. The contract follow-up for the municipalities of Gothenburg, Stockholm, Malmö and Örebro is the first such assignment conducted by SwedWatch. Website [www.swedwatch.org](http://www.swedwatch.org)



Established in 1973, the Centre for Research on Multinational Corporations (SOMO) is a non-profit Dutch research and advisory bureau. SOMO investigates the consequences of multinational enterprises' policies and the internationalisation of business worldwide. SOMO's expertise lies in the field of international guidelines, treaties and codes of conduct for multinational enterprises, and it conducts research on compliance with related norms. Focus is placed upon research on labour conditions in the global South and cooperation with local organisations and trade unions. Website [www.somo.nl](http://www.somo.nl)

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Published in January 2008.  
Photos: Kristina Bjurling, SwedWatch (if nothing else is mentioned).

The SwedWatch part of this research is financed partly by the municipalities of Gothenburg, Stockholm, Malmö and Örebro and partly by FinnWatch and the Swedish Development Aid Agency (Sida). However Sida is not responsible for the content of the report. The SOMO part of the research was commissioned by India Committee of the Netherlands (ICN) on behalf of the Dutch Working Group on Sustainable Natural Stone, financed by the Netherlands Ministry of Housing, Spatial Planning and the Environment (VROM).

# IHLO

IHLO (ITUC/GUF/HKCTU Hong Kong Liaison Office) has a mandate to support and represent the international trade union movement in Hong Kong and to monitor trade union and workers' rights, as well as political and social developments in China. IHLO publishes regular articles and research briefings on the situation of trade union and worker rights in China, Hong Kong and Macau SARs. The reports provide in-depth information and analysis on key issues and are designed to facilitate a better understanding of the challenges facing democratic, independent trade unions and workers in China. It provides timely advice and face-to-face briefings, information and analysis on human and trade union rights to ITUC affiliates and labour groups interested in working on China. In addition it takes part in and initiates global union campaigns against labour rights abuses in China and works to organise campaigns aimed at the protection and promotion of core labour rights in China including the right to freedom of association, currently denied to Chinese workers under the Trade Union law which recognizes the ACFTU as the sole trade union allowed in China.

IHLO does not generally involve itself in the implementation of Corporate Social Responsibility (CSR) projects in China, nor does it recommend any particular type of CSR model. Rather it works for an improvement of working conditions, the adoption of an adherence to core ILO standards (including freedom of association) and the inclusion of references to ILO core standards in all proclaimed "CSR" models with a particular emphasis on worker empowerment and participation. Staphany Wong, researcher from IHLO, has helped throughout the research and is also a co-author of the report. Website [www.ihlo.org](http://www.ihlo.org)

## FinnWatch

FinnWatch started in 2002 and collects and spreads information on Finnish companies in developing countries and economies in transition where there is reason to believe that conditions are environmentally or socially unsatisfactory. FinnWatch's objective is to bring about concrete improvements in developing countries and economies in transition when business activities are environmentally or socially unsatisfactory. Research is carried out in collaboration with local NGOs and labour organisations in the target countries. FinnWatch is a network of seven NGOs and trade unions. FinnWatch have contributed to the report by researching which Finnish importers buy stone from China and have provided addresses to several Chinese suppliers investigated in this report. Website [www.finnwatch.org](http://www.finnwatch.org)



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# Executive summary

In the last few years the Chinese natural stone industry has increasingly come into the public spotlight as a result of poor working and environmental conditions. As a result, municipalities in several European countries, including Sweden and the Netherlands, have started to include sustainability criteria in their procurement processes. In this context, sustainability refers to the observation of certain labour, environmental and ethical standards during all stages of the supply chain. Some Chinese suppliers have already started to improve production conditions during the past years as well.

In the Netherlands, civil society organisations, together with Dutch stone importers, have set up a Working Group on Sustainable Natural Stone. This working group has developed a code of conduct with clearly defined ethical, labour and environmental norms. The feasibility of implementing this code has been investigated by the Centre for Research on Multinational Corporations (SOMO), a member organisation of the working group. In Sweden, four major municipalities have been adding social demands to their procurement processes for stone products since autumn 2006. In July 2007, these municipalities commissioned SwedWatch to conduct a follow-up of how these demands were being met in China. Swedish, Dutch and Finnish organisations have joined together in a collaborative research project, in cooperation with the Hong Kong Liaison Office of the international trade union movement (IHLO). Seven Chinese suppliers, some of which have already started to improve production conditions, cooperated with the project. The aim of this project is to help importers and their suppliers abroad to improve labour and environmental standards, to establish a well-functioning monitoring and verification system, and to prepare for procurement of sustainable natural stone products by European municipalities. The research constitute so called baseline study and is not intended to discourage natural stone imports from China in any way.

In October 2007, SwedWatch, SOMO and IHLO visited factories and quarries of the seven suppliers and some of their subcontractors in the Chinese provinces of Fujian and Shandong. During these visits, it became clear that some information about labour conditions needed to be double-checked and that more input from workers was required. Therefore, local mainland groups went back to the suppliers after the initial visits to conduct confidential employee interviews.

Due to the limited number of investigated suppliers, the research findings cannot be generalised to the entire stone industry in China. However, many of the issues identified in this research will provide useful suggestions for improvements in labour and environmental conditions at other suppliers as well.

The national Chinese stone industry has a total annual turnover of approximately 10 billion euros, constituting around 0.5 percent of GDP, and employing 2-3 million people. In the last twenty years, the annual growth rate of stone produc-



tion has been around 20 percent, according to the Chinese Customs Department. There are over 5,000 quarries and 10,000 factories in the country. Most factories are concentrated in the Fujian and Shandong provinces, though stone quarries can be found all over the country. Production methods vary widely. Some Chinese companies have large, completely mechanised factory halls with the newest equipment and high quality, safety, and environmental standards. At the other end of the spectrum are small, open air workshops with second-hand cutting machines and self-employed individuals producing kerb stones.

China is the biggest stone producer and the second biggest stone exporter in the world (after Italy). In 2006, exports amounted to almost 15 million tonnes, worth over 2 billion euros. Approximately 20 percent of Chinese natural stone exports go to Europe. In 2006, exports to The Netherlands and Sweden were 49 million and 7.5 million euros, respectively, consisting mainly of finished granite products.

A large majority of exports to Europe are handled by trading companies and agents that buy from many different producers. Some of the larger producers are partially vertically integrated. They have invested in a few quarries, process the blocks into finished products in their own factories, and subsequently export them directly. However, many factories also source raw blocks from Chinese quarries in which they have no investment and import blocks from other countries. In addition, many suppliers subcontract part of their production to other companies, or subcontract specific parts of the production process. These arrangements make the supply chain of natural stone products very complex. Nonetheless, for export production, product quality is often closely controlled throughout the supply chain.

The research identified serious problems in the area of health and safety. The high-accident rate related to the quarrying and processing of natural stone puts workers under serious risk. The most common injuries are cuts and bruises to the hands, as well as crushed fingers, among those moving heavy slabs and stones. In the province of Fujian, there is also a high risk of silicosis, an often fatal occupational disease caused by the accumulation of invisible particles of quartz in the lungs. The disease most often only manifests itself after several years. The risk of silicosis is lower in the Shandong province as the granite industry in Eastern Shandong is characterised by hammering operations that generate little dust, and the blue limestone processed in Western Shandong contains very low levels of quartz.

Workers do not usually receive any training on health and safety in the workplace. As a result, awareness about health and safety risks is low. In Fujian, for example, many workers are not aware of the risk of silicosis and simple protective measures such as wearing appropriate face masks or regularly cleaning the workplace are often not implemented. Many working environments are full of dust and fog from granite cutting. Moreover, employers rarely provide appropriate protective gears, such as gloves and face masks, for free. Earplugs are hardly

ever used, although workers are exposed to noise levels that cause permanent damage to hearing. Other preventative measures, such as installing safety nets in quarries to protect workers from falling stones, or providing carts to move heavy stones, are not always implemented either.

A few companies provide written employment contracts, but others do not. Workers in relatively dangerous cutting operations are often not employed directly, but these operations are subcontracted to section leaders. Production workers are paid on a piece rate basis whereas auxiliary workers, such as guards and packers, usually earn a fixed daily wage.

Most companies have two or three low production periods throughout the year, during which migrant workers return home to work on their farms. Quarries suspend operations during the rainy season. For the rest of the year, though, all companies operate seven days per week, except when there is a lack of orders. This is legal if companies obtain government approval for exceptional working schedules, but none of the investigated suppliers had obtained such documentation. Because workers are not allocated a weekly day of rest and overtime is a regular feature at many companies, average working weeks could range between 56 and 77 hours. Some workers find this workload too heavy. If companies pay a premium rate for overtime, as required by law, this is only applied to evening work and not to Sundays.

From a workers' perspective, one main priority should be to increase wages. Compared to other sectors, wages in the natural stone industry are not exceptionally low, yet if all overtime would be paid at the legally required minimum rate, the wages of many workers would be higher. The consequences for total production costs may be limited, since labour costs are generally much lower than those for raw materials and transportation.

Another priority is adequate insurance against work-related accidents, something that was in place at a few factories, though more common in the quarries. Workers producing kerb stones want employers to provide them with the tools that they need free of charge, as they currently have to buy these themselves. Workers also want better dormitory facilities and meals where these are provided by the factories. The windows are broken in some dormitories in Eastern Shandong, for example, and it can get very cold during the winter.

Dutch municipalities have so far been most concerned about child labour. However, no workers below the age of eighteen have been found to be employed by Chinese natural stone quarries or factories within this research project. Further, there have been no signs of discrimination in employment or forced labour beyond compulsory overtime.

Environmental impacts were not investigated in as much detail as working conditions. Main environmental issues are high water usage, the release of wastewater, the dumping of tailings and waste from broken stones, as well as a lack of resto-



ration of exhausted quarries. Nothing has so far been found to suggest that any of these issues are causing substantial problems for nearby communities.

For the implementation and monitoring of improvements many companies emphasise that both foreign buyers and Chinese local governments have an important role to play. If enforcement of existing labour legislation by the Chinese government would be enhanced, working conditions at all companies would improve. Demands from buyers might be difficult to meet if improvements result in higher costs for the factory as a whole, but the buyers are neither stable nor major customers. So far, any demands or inquiries from buyers have not extended to quarries or subcontractors. Most suppliers, in fact, work with fixed quarries and subcontractors, and regularly inspect product quality at subcontractors, so extending initiatives throughout the supply chain might well be feasible. Without buyer pressure, though, suppliers may find it difficult to demand certain labour standards from their business partners because this is unusual.

It is difficult to monitor improvements for several reasons. Firstly, many companies do not currently keep records of working hours, overtime, accidents, injuries, and lost working days. Secondly, it was found that some companies prepare for preannounced visits from researchers and buyers. Thus, unannounced visits or confidential worker interviews are required to enhance the credibility of audits or inspections. Thirdly, it would be desirable if local civil society organisations representing the interests of workers could be involved in a system for implementing and monitoring improvements to enhance legitimacy and credibility. A few organisations that could take such a role were identified, but their capacity may be limited.

The main recommendations on the basis of these findings are as follows:

- With regard to improvements, priority should be given to:
  - health and safety training, including prevention of silicosis;
  - informing workers about the potential hazards at the time of recruitment and employment
  - health records should be kept and be accessible to employees in the industry
  - free suitable protective equipment for workers
  - relatively simple measures to improve the working environment, such as safety nets in quarries, carts or pallet jacks for moving heavy loads, and regular cleaning of factories
  - quartz dust control
  - annual medical check-ups including chest x-rays
  - written employment contracts specifying working hours and wages in accordance with Chinese law

- insurance against working accidents in accordance with Chinese law
- higher wages (through overtime compensation in accordance with Chinese law)
- providing free tools for workers producing kerb stones
- improving dormitories and meals where these are provided by suppliers
- European municipalities and buyers should base their demands for social standards on these priority areas and should be willing to offer the required resources so that their demands could be implemented. Municipalities and buyers also need to facilitate the gradual implementation of sustainability criteria, since it is not possible to implement all social demands at once.
- The Dutch code of conduct and the current social demands of the Swedish municipalities should also be adjusted to take the priority areas mentioned above into account. Eventually, a uniform European standard should be developed.
- Employees in the supply chain should be actively involved in implementing and upholding these demands. They should undergo training with expert organisations on working conditions, and be involved in the setting up of health and safety committees.
- Buyers and suppliers should document the entire supply chain of natural stone products. Issues relating to sustainability should also be communicated to quarries and subcontractors.
- Enhanced record keeping is required to facilitate the monitoring of working hours, overtime, accidents, injuries, lost working days, etcetera.
- Audits of labour conditions should involve unannounced visits and/or confidential interviews with workers.

# Introduction

In 2006–2007 several Swedish public procurers have started to implement ethical requirements. During spring 2006 Swedish National Radio aired several broadcasts about stone imports from China and the appalling working conditions within the industry, highlighting in particular the risks of silicosis.<sup>1</sup> These programmes sparked a heated debate about stone imports from China prompting some Swedish municipalities to include basic ethical requirements in their new procurement contracts for natural stone. Other activities were also initiated. One such activity involved several leading members from the municipalities of Stockholm and Uppsala joining Swedish stone importing firms on a trip to China in order to inspect the production process. Another saw the Swedish Stone Industries Federation adopting a policy on imported natural stone for their member companies.

In the Netherlands, increasing attention has also been paid to the conditions under which natural stone is quarried and processed in developing countries, notably India and China. As in Sweden, the media has been expanding its coverage of sustainability issues in the natural stone supply chain, and Dutch municipalities have started to make ethical demands when procuring paving products made from natural stone. In the Netherlands these demands, however, are currently limited to the prohibition of child labour.

In 2005, several Dutch importers of natural stone products, industry associations, and civil society organisations came together and set up the Dutch Working Group on Sustainable Natural Stone to promote sustainable production. The working group commissioned two pilot projects to investigate working and environmental standards in more detail, and to explore the possibilities of creating a system to implement and monitor improvements.<sup>2</sup> This report presents the findings of the second pilot project.

Swedish, Dutch and Finnish organisations have joined together in a collaborative research project, in cooperation with the Hong Kong Liaison Office of the international trade union movement (IHLO). Seven Chinese suppliers, some of which have already started to improve production conditions, cooperated with the project. The aim of this study is to help importers and their suppliers abroad to improve labour and environmental standards, to establish a well-functioning monitoring and verification system, and to prepare for procurement of sustainable natural stone products by European municipalities. The research can be regarded as a baseline study. It is not intended to discourage natural stone imports from China in any way, but to encourage the improvement of produc-

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1 Kaliber, Swedish radio, p1, 2006-04-30, [www.sr.se/cgibin/P1/program/artikel.asp?ProgramID=1316&artikel=845898](http://www.sr.se/cgibin/P1/program/artikel.asp?ProgramID=1316&artikel=845898)

2 The first pilot study took place in Southern India. The report is available at <http://www.indianet.nl/feasibility.html>.

tion conditions. SwedWatch and SOMO are responsible for the publishing of the report. Modified versions of this report are also published in Finland, Denmark and Norway by FinnWatch, DanWatch, and Norwatch respectively.

The next chapter briefly describes the research methods. After that, a background information chapter outlines the structure of the natural stone supply chain and relevant sustainability criteria. Then follows a chapter with general profiles of production areas and suppliers including some brief business profiles. This section does not deal with working and environmental conditions though. These are analysed in detail in the chapters on sustainability issues in processing and quarrying. Each issue relating to stone processing and quarrying in general is dealt with in turn, and relevant norms are outlined. Moreover, findings are described separately for the three different production regions. This is followed by a chapter on operational issues, addressing practical aspects of a system on how to implement and monitor improvements. This chapter also presents those issues that workers feel should be prioritised and provides feedback on the code of conduct developed by the Dutch working group. The final chapter gives conclusions and recommendations.

# Research methods

Three researchers from SwedWatch, SOMO and IHLO travelled to the Chinese provinces of Fujian and Shandong in October 2007. They visited seven manufacturers supplying natural stone to Scandinavia and the Netherlands. Due to the confidential nature of some buyer-supplier relationships, the names of the Chinese suppliers have been changed in this report and detailed information on their business and exact location are not included. Because of the limited number of investigated suppliers, the research findings cannot be generalised to the entire stone industry in China. However, many of the issues identified in this research will provide useful leads for potential improvements in labour and environmental conditions at other suppliers as well.

One or more factory tours were done per supplier. Sometimes quarries or administrative offices were also visited. Interviews were conducted, mainly with managers and supervisors, but also with a few workers. General permission to take photographs was given by most but not all suppliers.

During these visits, it became clear that some information about labour conditions needed to be double-checked and that more input from workers themselves was required. Therefore local mainland groups were involved in going back to the suppliers after the initial visits to meet employees and conduct confidential interviews. The identities of all workers remain anonymous to ensure that disciplinary measures are not taken against them. For safety reasons the local researchers and their organisations will also not be named.

The investigation team in Shandong included six persons. In order to be able to talk to workers freely, the local researchers in Shandong applied for jobs at the suppliers' sites. In Fujian the investigation team was made up of two researchers who conducted off-site worker interviews at four natural stone factories. In total, around seventy employees have been interviewed, including twenty workers at quarries, subcontractors, and joint ventures in Shandong. Five to ten employees were interviewed at each of the seven suppliers. As this is an exploratory study and not an audit, indications of breaches of Chinese legislation or international labour norms should not be regarded as conclusive evidence.

In addition to the investigations conducted in China, SwedWatch, IHLO and SOMO have collected information from relevant organisations, experts, company representatives, authorities and secondary sources. The sources of such information are provided in footnotes.

The companies in question were given the opportunity to read and comment on the report before the information was made public. This has resulted in various corrections, adjustments, and clarifications to the draft report. Some written comments are available on both SwedWatch's and SOMO's websites: [www.swedwatch.org](http://www.swedwatch.org) and [www.somo.nl](http://www.somo.nl). On the basis of our own observations and our

interviews with management and employees at supplier companies, SwedWatch, IHLO and SOMO have analysed the labour and environmental conditions at suppliers, using a normative framework based on Chinese legislation and international labour norms. Breaches of these norms are indicated.

SwedWatch, SOMO and the Dutch Working Group on Sustainable Natural stone are available to discuss the recommendations put forward at the end of the report with the companies and municipalities concerned.



# Background information

## The natural stone industry in China and supply chains

The national Chinese stone industry has a total annual turnover of some 10 billion euros, constituting around 0.5 percent of GDP, and employing 2-3 million people.<sup>3</sup> There are over 5,000 quarries and 10,000 factories in the country. Most factories are concentrated in the Fujian and Shandong provinces, though stone quarries can be found all over the country. China is nowadays the biggest stone producer as well as the biggest stone exporter in the world. In the last twenty years, the annual growth rate of stone production has been around 20 percent.<sup>4</sup> According to the Chinese Customs Department, China exported almost 15 million tonnes of stone in 2006, worth over 2 billion euro.<sup>5</sup> The remaining output is for the domestic market.

Europe accounts for approximately 20 percent of Chinese natural stone exports. Japan, South Korea and the US are also major importers. China also imports raw blocks of stone from all over the world, including Finland, Spain and Italy. Some of the most important foreign sources are India, Brazil, and South Africa. The raw blocks are shipped to China for processing, after which the finished products are exported again.

Production methods vary widely. Some companies have large, completely mechanised factory halls with the newest equipment that have ISO 9001 and 14001 certification for quality and environmental management. Others are small, open air workshops with second-hand cutting machines on which the slabs or sawing blades need to be moved manually.

There are also a number of different supply and production arrangements. Some of the larger companies are partially vertically integrated. They have invested in a few quarries<sup>6</sup>, process the blocks into finished products in their own factories, and subsequently export them directly. However, even vertically integrated companies usually also buy from different quarries as well, especially if they offer

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<sup>3</sup> Figures given in a presentation by Supplier B.

<sup>4</sup> Analysis of stone industry at the Chinese web page of Urban planning website, UPLA, <http://info.upla.cn/html/2007/11-23/72650.shtml>, downloaded in December 2007 and <http://www.stonereport.com/ihtm/detail-e.htm?aclnews=10:0:984:::0:247>, downloaded January 2008.

<sup>5</sup> The Chinese website, “stone traders in greater china”, [http://www.cnhaw.com/news/news\\_show.asp?n\\_Nid=6347](http://www.cnhaw.com/news/news_show.asp?n_Nid=6347), downloaded in December 2007.

<sup>6</sup> None of the companies we met actually owned the quarries, since natural resources, are supposed to be owned by the country. The quarry owners usually sign a long contract, from 10 to 50 years, depends on mutual agreement to extract the stones. In some cases, the suppliers we visited have investments in the quarries (like supplier B) but in most cases, suppliers just have a long working relationship with the quarries licensers.

products in a large variety of different types of stone. Inversely, some quarries are licensed and used by three or four different producers. Most producers stock different blocks, including imported stone types (if they offer them), to shorten lead time.

In addition, many exporters subcontract part of their production to other companies, or subcontract specific parts of the production process. In Western Shandong province, for example, some companies subcontract the cutting of raw blocks into slabs to small family enterprises. Some large producers also buy additional finished products from others for export. Therefore, large companies can have a turnover of millions of euros, yet rarely employ over a thousand workers directly. A large majority of exports to Europe are handled by trading companies and agents that buy from many different producers.

Smaller companies do not have any special arrangements with any quarries and may even buy semi-processed slabs as input, readily available from wholesale markets such as Quanzhou in Fujian province. Most companies that sell at this market have a factory of their own and, like other companies, sometimes outsource part of their production. Some also own shares in one or several quarries, and blocks from these quarries can be ordered at the market.

There are large clusters of stone producing companies near some quarry areas, including many small workshops and family enterprises, sometimes with as little as one machine. Processing that does not require machinery, such as manufacturing kerb stones from blocks, is usually not organised in factories and is instead done by self-employed individuals in small workplaces.

These arrangements make the supply chain of natural stone products very complex. Nonetheless, for export production, product quality is often closely monitored throughout the supply chain. Importers regularly visit factories in China to inspect large orders, and companies that subcontract to others often send quality inspectors to these subcontractors to check every product before it is packed. Since quality is so important, many companies work with fixed subcontractors only. Therefore, in principle, the entire supply chain is known to the exporter, or can be checked easily, at least from the final stage of mechanised processing upwards.

## Imports to Sweden and the Netherlands

### **Imports to Sweden**

Sweden's municipalities commission the services of various companies to construct roads, pedestrian areas and other outdoor buildings. The companies involved are the state-owned Swedish National Road Administration Production and the privately owned Skanska, NCC and Peab. There are also many other entrepreneurs on local and regional markets, both private owned and owned by

municipalities. The products needed, such as kerb stones, are purchased by the companies themselves in the majority of cases. Nevertheless, some municipalities occasionally procure stone products themselves. The companies buy stone directly from wholesalers, their own suppliers or Swedish stone companies.

The major stone importers of Chinese stone in Sweden are Bohus Gatsten & Kantsten, Naturstenskompaniet, Arctic Kvarstis, Nordic Granit, Scanstone and Bothnia Granit. Sweden also imports stone from Norway, Italy, Portugal and India. Granite is also quarried in Sweden and this is used domestically as well as being exported worldwide.

Sweden started importing stone from China in 1997 and since then the import has grown steadily. In 2000, Sweden imported granite goods worth just over 1 million euros from China, and by 2006 imports had grown to almost 7.5 million euros.<sup>7</sup> Around 4-5 million euros of that sum stands for processed granite goods like staircases, tiles and slabs. The rest is made up of raw granite goods, such as paving and kerbstones. That imports from China has increased so rapidly is mainly due to the low costs, not least the low costs of labour.

Bohus Gatsten & Kantsten, Arctic Kvarstis and Naturstenskompaniet import from one of the following suppliers each: B, F and G. Nordic Granit imports from Supplier B and E. (See details about these suppliers below).

### **Imports to the Netherlands**

Dutch imports of natural stone product from China have increased from 11 million euros in 2002 to 49 million euros in 2006. Most of the imports are finished products, including 16 million euros worth of paving stones and 13 million euros worth of art works made from polished granite in 2007.<sup>8</sup> Regarding Dutch companies, the research has focussed on the supply chain of one of the main stone importers in the Netherlands.

## **Sustainability criteria**

### **Social demands of the Swedish municipalities**

Since 2006 the municipalities of Stockholm, Malmö and Gothenburg have included the following terms in its contracts with suppliers:

*”The supplier shall, upon delivery of stone products, be able to show that the stone has been produced in safe and healthy working conditions for the employees, pursuant to the international conventions that Sweden is bound to.”*

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<sup>7</sup> Statistics Sweden’s website, SCB, import of goods from China, [www.scb.se](http://www.scb.se), 1 euros = 9,59 SEK according to Forex 2007-12-19.

<sup>8</sup> CBS Statline, HS codes 251400-251622, 251690, and 680100-68030, downloaded 4 Dec 2007.

Other municipalities, including Örebro, have included similar requirements.

In October 2006 the Traffic & Public Transport Committee in Gothenburg specified the conventions that were to be followed in order to be permitted to deliver stone products to the municipality:<sup>9</sup>

- UN convention on the Rights of the Child, art. 38;
- ILO convention C105 Abolition of Forced Labour Convention and C29 Forced Labour Convention;
- ILO convention C170 Chemicals Convention;
- ILO convention C155 Occupational Safety and Health Convention;
- ILO convention C148 Working Environment (Air Pollution, Noise and Vibration) Convention.

The Traffic & Public Transport Committee in Gothenburg also required suppliers to specify details of their supply chains and to send documentation on how they were adhering to the new demands. It was also stated that the municipality may arrange for an independent verification of these demands at the production sites in China. In July 2007 SwedWatch was assigned to conduct a contract follow-up in accordance with this plan. Stockholm, Örebro and Malmö joined Gothenburg to arrange for the follow-up of the contracts, as well as complementary studies of supply chains of natural stone from China.

From the municipalities' perspective the aim of the follow-up serves to do the following:

- To contribute to decent working conditions in the production of goods for the municipality.
- To verify that stipulated requirements are being met.
- To develop competence about ethical requirements that can be included and monitored for stone products, and, in longer term, also for other products that are publicly procured.

### **The Dutch code of conduct**

In the Netherlands, sustainability criteria in the procurement of natural stone products by municipalities have so far been limited to the prohibition of child labour. However, companies, industry associations, and civil society organisations have worked together in the Dutch Working Group on Sustainable Natural Stone to develop a code of conduct concerning sustainability criteria. The main priorities in this code of conduct are:

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<sup>9</sup> Göteborgs Stad Trafikkontoret "Sociala krav vid upphandlingar" TN§2005/06, Dnr 1191/06, <http://www.trafikkontoret.goteborg.se/>

- compliance with national legislation, including quarrying licenses
- no child labour
- freedom of association and the right to collective bargaining
- sufficient wages to meet basic needs
- acceptable health and safety standards
- management of environmental impact

The issues and norms concerning working conditions in the Dutch code of conduct are largely the same as the demands made by the Swedish municipalities. The latest version of the full code of conduct can be found on the website of the India Committee of the Netherlands.<sup>10</sup>

## What are the problems in Chinese stone industry?

### **Silicosis**

Silicosis is an incurable lung disease caused by inhalation of dust containing free crystalline silica. It is one of the oldest known occupational diseases and the disease still kills thousands of people every year.<sup>11</sup> Silicosis is irreversible and may even progress after direct exposure stops. It can take several years for the disease to develop. Extremely high exposure, however, tend to shorten the latency period.

Free crystalline silica, SiO<sub>2</sub>, is a common mineral found in sand and rocks such as granite, sandstone, flint and slate.<sup>12</sup> It may also be found in some coal and metallic ores. The three most common forms of crystalline silica are quartz, tridymite and cristobalite.

Employees involved in operations where silica dust is released, including the stone industry, are all at risk of developing silicosis. Respirable silica dust is invisible to the naked eye and can remain airborne for a long time. This means that the dust may travel long distances through the air and thus affect surrounding populations as well.

*“Silicosis results in conditions such as lung fibrosis and emphysema. The*

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<sup>10</sup> Dutch Working Group on Sustainable Natural Stone, A Code of Conduct for the natural stone sector: Sustainability criteria to support supply chain responsibility throughout the chain, Nov 2007, <http://www.indianet.nl/pdf/codeofconductnaturalstone.pdf>. Hardcopies available on request. An abbreviated version is included in a brochure: <http://www.indianet.nl/pdf/naturalstone.pdf>.

<sup>11</sup> Malmberg, Per, “Driving forces behind elimination of Silicosis In Sweden”, OSH & Development, March 2005.

<sup>12</sup> World Health Organization, Silicosis, Fact sheet N°238, May 2000, <http://www.who.int/mediacentre/factsheets/fs238/en/>, downloaded 2007-11-19.

*form and severity in which silicosis manifests itself depends on the type and extent of exposure to silica dusts: chronic, accelerated and acute forms are all recognized. In later stages the critical condition can become disabling and is often fatal.”*

World Health Organization <sup>13</sup>

There is currently no European Union occupational exposure limit for respirable crystalline silica, but many European countries as well as China do have exposure limits. In Sweden, Denmark and Norway the highest legal limit is 0,1 mg quartz per m<sup>3</sup>, in Finland the limit is 0,2 mg/ m<sup>3</sup> and in the Netherlands the limit is 0,075 mg/ m<sup>3</sup>. In China the limit is 0,7 mg/m<sup>3</sup> of respirable dust containing silica if the granite contains between 10–50 percent free silica (which is the most reasonable assumption for granite).<sup>14</sup>

*”The scientists agree that Sweden’s limits are actually too high. It should be half, 0,05 mg/m<sup>3</sup> for an eight hour day. If an employee works 10-12 hours it should be even less! It is the dose for the whole life which is counted, since your body cannot get rid of the quartz”, says Ingegerd Glimberg, inspector at The Swedish Work Environment Authority.<sup>15</sup>*

### **Cases of silicosis in China**

Between 1950 and 2005 China had accumulated more than 650,000 cases of pneumoconiosis, the same as the total number of cases in the rest of the world.<sup>16</sup> The majority of cases of pneumoconiosis are found in coal mining where workers develop so called “coal workers’ pneumoconiosis”. In the stone industry the workers are instead at high risk of being afflicted by silicosis as a result of exposure to respirable quartz, one of the most common types of pneumoconiosis.

While more than 143,000 sufferers have died from pneumoconiosis, there are still 522,000 sufferers on record. Each year 15,000-20,000 more cases are reported and more than 6,000 patients die. Given the poor documentation of workers’ health conditions, the Ministry of Health also has revealed that the official figure is probably only half of the real number of victims, meaning that there are likely to be more than 1.2 million Chinese people suffering from pneumoconiosis. Silicosis has long been the most prevalent occupational health problem in

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<sup>13</sup> World Health Organization, Silicosis, Fact sheet N°238, May 2000, <http://www.who.int/mediacentre/factsheets/fs238/en>, downloaded 2007-12-03.

<sup>14</sup> Occupational Exposure Limits for Hazardous Agents in the Workplace GBZ.2-2007, available at <http://www.clapv.org/new/show.php?id=1148&catename=flfg>, downloaded 2007-12-11.

<sup>15</sup> Ingegerd Glimberg, Inspector at The Swedish Work Environment Authority, 2007-08-22.

<sup>16</sup> Pneumoconiosis is an occupational lung disease caused by the inhalation of dust.

Depending on the type of dust, variants of the disease are considered. Silicosis is one of these diseases caused by quartz dust. People’s Daily, 17 July 2006, <http://www.people.com.cn/BIG5/67502/67561/4598048.html>.



China.<sup>17</sup> It requires only a very short period of exposure to contract the disease if the dust levels are high. In 2005, there were 211 new cases of silicosis among people working in dust-related industries for less than two years.<sup>18</sup>

In the recent years, cases of workers developing silicosis as a result of cutting and polishing of gemstones, involving direct exposure to heavy silica dust, came to light after testimonies from the victims. Former employees affected by the disease have now joined the Asian Network for the Rights of Occupational Accident Victims (ANROAV).<sup>19</sup> The network is very concerned about the increasing number of silicosis cases found among workers at jewellery factories and processing workshops in mainland China. Labour Action China, a Hong Kong based NGO, which is part of the network, reports that several victims have died after years of battling the disease and compensation from their former employers.

*“Over 100 cases of silicosis related to Hong Kong owned jewellery factories have been reported since last year (2006). Some of the workers have already died of the disease while those who survive are carrying the disease to the final stage of severity.”<sup>20</sup>*

However, the gemstone workers’ cases are just the tip of iceberg. In China, workers are generally not informed about the dangers of silicosis and how their work may be putting them at risk of the disease. The majority of workers interviewed as part of this project either say that they have not heard of this disease, or that they do not think their job puts them at risk of contracting it.

The researchers have written to the Chinese authorities at the provincial level to inquire about the situation. So far, no formal reply has been received. Statistics from 2004 show that there were 8,600 cases of silicosis in the Fujian Province, and there is an upward trend in the Quanzhou area.<sup>21</sup> In 2006, the Xiamen’s Centre for Disease Control and Prevention checked 5,400 workers with work-related illnesses and identified thirty cases of silicosis.<sup>22</sup> By the end of 2005 some 20,000 silicosis cases and 3,600 disease-related deaths had been identified in the Shandong province. In 2005 there were 826 new cases of silicosis in the Shan-

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17 Lehtinen, Goldstein, Suvi and Greg, “Elimination of silicosis from the world”, OSH & Development, no 4, May 2002.

18 News release from Ministry of Health, China, on 24 April 2006. Downloaded from <http://www.bjfamousdr.com/ReadNews.asp?NewsID=18809>

19 Labour Action China, <http://www.lac.org.hk/en/modules/news/article.php?storyid=14>, downloaded, 2007-08-03.

20 Labour Action China, <http://www.lac.org.hk/en/modules/news/article.php?storyid=11>, downloaded 2007-08-03.

21 Quanzhou Web news, on 26 May 2004. [http://www.qzweb.com.cn/gb/content/2004-05/26/content\\_1242250.htm](http://www.qzweb.com.cn/gb/content/2004-05/26/content_1242250.htm)

22 Xiamen Web news, on 26 May 2007. [http://www.xmnn.cn/xwzx/jrjd/200705/t20070526\\_216909.htm](http://www.xmnn.cn/xwzx/jrjd/200705/t20070526_216909.htm)

dong province.<sup>23</sup> It could not be confirmed to what extent these cases involve workers from the natural stone industry.

It is usually very difficult for workers who have contracted silicosis to claim the rightful compensation and receive treatment. Reasons for this include the common absence of employment contracts, the unhelpful diagnosis process, and lack of insurance.<sup>24</sup>

### **Migrant worker issues**

China has a large so called "floating population", which is moving from the inner and northern provinces to the East coast and South China to work in labour intensive industry in need of a cheap labour force. During the last decade over 100 million people have left the countryside for the growing cities looking for jobs.<sup>25</sup> Most of them are quite young, poor and uneducated. The situation facing young female workers in Guangdong is one of the most well known. "The companies take advantage of the access to cheap labour, where these workers are lured to the region, primarily from other poorer inland provinces", writes the Swedish Ministry for Foreign Affairs.<sup>26</sup>

Generally the migrant workers do not have the right to move permanently due to the Chinese dwelling system, known as the Hukou system. Since the local government would only allocate resources for local residents, migrant workers are not entitled to housing, medical services, healthcare, schooling, unless they pay a much higher price than the locals. Due to the unfair Hukou system and lack of social support considering that they are so far away from their home provinces, migrant workers are often exploited, working long hours without legal overtime compensation, sometimes in dangerous working environments without proper safety equipment and without any possibilities of joining or forming trade unions.

However, the issues facing migrant workers are prevalent all over eastern China. The problems encountered by the migrant workers in the stone industry in the Fujian and Shandong provinces are similar to those of the migrant workers in Guangdong. The migrant workers in Fujian's stone industry tend to come from Sichuan, Guizhou, and Jiangxi whilst the migrant workers in Shandong's stone industry tend to come from southern and poorer parts of Shandong.<sup>27</sup> Most of them have left families behind and send money home to them, although some do bring their wives and children.

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23 Northeast web news, 11 November 2006. <http://internal.big5.northeast.cn/system/2006/11/11/050602713.shtml>

24 China labour Bulletin, "Deadly dust", CLB Research Series: No 1, December 2005.

25 Wingborg, Mats, red. "10 röster om mänskliga rättigheter i Kina", Bilda förlag, 2007:65.

26 Southern China – economy and development", Report from the Swedish Foreign Ministry, Ulf Sörmark, 2004-02-06, gathered from [www.swedishtrade.se](http://www.swedishtrade.se), 2004-02-11.

27 According to interviews with workers and employees within the research.

In the mining, construction and chemical industries it is estimated that 80 percent of the total number of people injured or killed in accidents are migrant workers.<sup>28</sup> For a migrant worker who gets sick or injured at work it is often extremely difficult to receive compensation and correct hospital care.<sup>29</sup> Most injured or sick migrant workers tend to return home to their places of origin and seek help from relatives.

Compared to injuries, occupational diseases are difficult to identify, and sometimes workers only realise they are sick once they have moved back to their hometowns or have ended labour relations with the unsanitary workplace. It is very unfavourable to workers, who have to prove the work relation and need permission from their employers to get diagnosed.

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<sup>28</sup> Huitfeldt, Jörgen, Johnson, Thella and Wong, Ola, "Sjukt billigt", Norstedts, 2007:57.

<sup>29</sup> China labour Bulletin, "Deadly dust", CLB Research Series: No 1, December 2005.

# General profile of production areas and suppliers

## The city of Xiamen and the Fujian province

The Fujian province is the main stone processing area in China. Some 70 percent of the Chinese natural stone industry is concentrated in this province. Furthermore, approximately 70 percent of all Chinese natural stone exports are shipped out from the port of Xiamen.<sup>30</sup> Many exporting firms have their offices in Xiamen. The main trading centre, including a large wholesale market of semi-processed stone products, is in Quanzhou, 70 km north of Xiamen. The value of annual exports from Quanzhou lies at more than 1 billion US dollars.<sup>31</sup>

Many different types of granite are quarried in Fujian. Most of these are indicated by a code, such as G603, G633, G654, and G682. We do not mention the specific codes that the different suppliers use in the report though, since this would make it easy to identify specific Chinese suppliers. Other granite types have names like “Chinese Inada” (G655) or “China Green”. Basalt quarries can also be found in Fujian.

In some parts of Fujian, such as the areas around Xiamen and Quanzhou, the natural stone industry strongly dominates the local economy. There are large clusters of companies of all sizes to be found here and they attract many migrants from poorer provinces, who make up more than half of the labour force at many factories. Most migrants return to their home province each year during the Spring Festival (Chinese New Year, usually between mid January and early February). That said agriculture and other industries are more dominant in other parts of the Fujian province.

Approximately 30 percent of the companies in the Xiamen area are associated with the Xiamen Stone Chamber. This industry association aims to support the industry, provide a platform for the exchange of information, and promote common business interests.<sup>32</sup> There is also a Quanzhou Stone Chamber.

### **Supplier A**

Supplier A is a subsidiary of a foreign parent company. The major sales come from the natural stone industry, but it also acts as a trading agency. The company has one factory near Xiamen with 350 workers. It manufactures a basic assortment of slabs, tiles, paving stones and columns in the factory. The company has invested in a second factory, to which production may be moved for larger orders or in case other techniques are needed. In addition, supplier A uses approxi-

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30 Data from managers of suppliers A and B.

31 See <http://www.stonenic.com/news/537.html>, accessed September 2007.

32 Xiamen Stone Chamber website, <http://www.stonexiamen.com>, accessed 4 Dec 2007.

mately 15 subcontractors on regular basis. SwedWatch and SOMO were only permitted to visit the main factory.

The raw material is sourced from different parts of China, including the Fujian, Shanxi and Yunnan provinces, as well as from other countries, including Finland. For smaller orders, stone is bought at the market in Quanzhou. The costs of the raw material amount to about half of the sales price. Labour costs make up some 23 percent and overhead costs, investments in machinery, and a profit margin account for the rest.

The majority of its products are exported to Japan, Korea, Europe and the US. Customers in Finland, Norway, and Denmark account for around 10 percent of total sales. In Finland their customer is Kiviexpertit Oy and orders consist of kerb stones, tiles and paving stones, which are all produced in supplier A's own factory, according to the management.

### **Supplier B (factories B1, B2 and B2S)**

Supplier B has an office and two fully owned factories in Fujian. Supplier B has at least five partly or fully owned factories throughout China, and it uses many subcontractors on a regular basis. One of their fully owned factories, factory B2, is located North of Xiamen and has been researched for the purpose of this report. In addition, supplier B has a joint venture (factory B1) South of Xiamen, which has also been researched.

Factory B1, which produces tiles and paving stones, was only established three years ago. It employs about 100 workers, mainly migrants. For large orders, B1 buys semi-finished or almost finished products from other companies. This is quite a common occurrence, especially during the peak season from May to September.

Factory B2 manufactures tiles and paving stones, as well as construction materials and employs between 150 and 200 workers. It has been situated in its present location since 2001. These are not hired directly by the company, but each part of the production process is contracted to a session head, who then hires workers. Unlike many other factories in the area, B2 operates throughout year, with a steady production.

Supplier B uses subcontractors as well as its own production for export to Europe. According to the general management, subcontracting is less profitable than production in the company's own factories, but it prefers to only build factories in case of very stable orders. One of the subcontractors of B2, which will be labelled B2S, has been included in the research.

B2S is roughly the same size as B2. It produces mainly outdoor products. The factory does not export directly, instead manufacturing for other companies. Most of its production is for supplier B2, which performs quality inspections in the factory of B2S. The managements of the two factories have a close relationship.

Factory B1 and B2 process granite from nearby quarries. Because the factories are located close to the quarries, raw materials account for less than half of the total production costs. Labour costs amount to a mere 5-10 percent.

Supplier B exports to several countries, and the Netherlands, France, Germany, and the UK are relatively large markets for the company. Sales to Sweden are much smaller. The company introduced a quality system in the 1990s and its quality management is ISO 9001 certified. Supplier B has several costumers throughout Europe, among others Luonnonkivi Palin Oy in Finland and Nordstein GmbH Group Germany which also includes deliveries to Nordic Granit in Sweden and Euro-stein as in Denmark.

### **Supplier C**

Supplier C is a joint venture between local owners and foreign partners, located North of Xiamen. The company started 1998 as a family enterprise. Later on, some regular Japanese customers also invested in the company. It mainly produces construction materials, but also kitchen tops. Production is stable throughout the year, but April and May tend to be the low production months due to holidays in Japan. The company has 130 factory workers and 8 office workers.

The company seldom subcontracts production. The management prefers only to accept the orders that it can handle by itself. Occasionally the production of sculptures is contracted out as it is not done at their own factory. Supplier C licenses a quarry, located two hours drive away from the factory, and buys stone from the market in Quanzhou. The company uses different types of granite.

The company exports to Japan, Germany, Italy, Switzerland, Finland, as well as some countries in the Middle East. Domestic sales are also increasing. Of the European countries, Germany is the largest market and Finland the smallest. Between 2006–2007 the Finnish company Pohjolan Kivi-ja Viherrakennus Oy ordered paving stones from Supplier C. According to Supplier C this order consisted of paving stones produced at the quarry by temporary workers, and some additional decorative stones and kitchen tops produced in the factory.

Supplier C has no certified quality system, but it is able to meet the high quality standards demanded by Japanese customers. If customers order more than 1 000 m<sup>2</sup>, they usually visit the factory to perform quality inspections.

## **The Western province of Shandong**

Western Shandong province is a relatively poor agricultural area with some garments and furniture industry. The working standards in these industries tend to be higher than in natural stone processing in Shandong. In the investigated area, the quarrying and processing of blue limestone is a major economic activity.

Limestone is softer than granite but has a higher density. It has either no or very low quartz contents. The stone is used for paving products, also for export, but



even for statues of lions, miniature buildings and other types of decor for the domestic market. Low quality extracted limestone and waste from workshops is broken into small stones and is used for cement production. Finished products for export are shipped from Qingdao.

There are hundreds of small factories and workshops in the area, all located close to the quarries. Usually these do not have factory halls, but a courtyard with an open storage area in the middle and rows of small, half-open production facilities on the sides. At many smaller workshops, production takes place in the open air and families live on the site. It rarely rains in this region and it can get very hot in the summer.

There are no immigrant workers in the stone industry in Western Shandong. The quarries and processing companies are located in a rural area and many workers are farmers as well.

### **Supplier B (factories B3, B3S1, B3S2, and B3S3)**

Supplier B has a joint venture with a local owner, factory B3. The factory has a courtyard layout. There are working areas with roofs and one closed factory hall on the sides. There is a large, open hall for packing and some machines are also outside. It has over 50 workers involved in manufacturing and seven office staff members. It is one of the bigger companies in this area. Virtually all sales are to supplier B. The owner licenses from one specific quarry, but sometimes also buys from other limestone quarries.

About half of the turnover is from production at B3 itself. The other half is from production contracted out to other local suppliers. Three of these suppliers are included in the research and are labelled B3S1, B3S2, and B3S3.

The three subcontractors B3S1, B3S2, and B3S3 employ between 20 and 25 workers each. They mainly produce tiles and paving stones, no kerb stones. Between 60% and 80% of their output is supplied to company B, which always inspects the quality of the products at the site.

## **The Eastern province of Shandong**

The exportation of stone is one of the main industries in the Shandong province. In the area between Qingdao and Yantai there are several grey granite quarries suitable for the production of paving and kerb stones. The stone industry around Yantai is characterised by seasonal work, since the region is also a farming area. The local farmers grow apples, sweetcorn and peanuts. This means that most stone suppliers are active for around 200 days a year, especially the manual hammering workers. During the rest of the year the stone workers are engaged in farming. That said, machine operators may work all the year round.

### **Supplier D**

Supplier D has one fully owned factory, which is situated outside Yantai. They also regularly subcontract work to two factories, one located in Fujian province

and one factory in Western Shandong. Very occasionally it also uses local smaller subcontractors to finalise orders fast.

Supplier D started to export in late 90ties. Today almost all production is for exportation. It mainly manufactures rough stones such as paving and kerb stones, but also produces finished products, including stones for walls and pedestrian areas. Supplier D exports to among others Germany, Italy, the Netherlands, Finland, Sweden, Norway and Denmark.

Supplier D supplies paving and kerb stones to the Finnish stone importing firm Erikstone Oy, which also supplies the Swedish market. When we visited this supplier we also learned that Supplier D sells directly to the Swedish company RK Natursten AB in Gothenburg.

### **Supplier E**

Supplier E is a trading company and only a minor part of the business comes from stone industry. Since 1990 Supplier E has been closely cooperating with a local partner (LP) company in Yantai. The LP has eleven factories in Shandong. Ten of them are situated close to Yantai, but one lies around 400 km away from Yantai. In total the LP employ around 40 fixed workers as office staff and machine operators, and 200 temporary piece rate workers during periods of full production.

All export production of supplier E goes only to Nord-stein GmbH Group Germany, which includes bigger deliveries to the daughter companies like Nordic Granit in Sweden, as well smaller deliveries to Nord-stein as in Norway, euro-stein as in Denmark and a partner company in Finland called Luonnonkivi Palin Oy.

### **Supplier F**

Supplier F is located outside Yantai. It primarily manufactures paving and kerb stones. Most production is done in a fully owned factory and a joint venture. Sometimes they use subcontractors if customers require a certain type of stone.

Supplier F has approximately 120 workers in the fully owned factory, with another 150-160 workers at the joint venture. For Supplier F business growth has been quite steady in recent years, with few but stable customers.

Almost 100 percent of products are destined for exportation, mainly to Germany, the Netherlands, Luxemburg, France, Sweden, Denmark and Switzerland. In the last seven to eight years around 20-25 percent of products have been manufactured for the Swedish market. Sales to Denmark via Bent Vangsoe Naturstein started in 1998. The Scandinavian market now accounts for roughly 35 percent of turnover.

### **Supplier G**

80 percent of Supplier G's business is generated in the stone industry. It has one

production site of its own and uses ten subcontractors on a regular basis. At most of them Supplier G is the largest buyer. Supplier G supplies kerb stones, stones for streets, pedestrian areas and gardens, as well as kitchen sinks and kitchen tops.

It mainly exports its products to Northern Europe. Norway, Denmark and Sweden are major markets for Supplier G. Other markets are Belgium, Germany, UK and Japan. In Norway it sells to Jogra Stein Industries and in Denmark to TR Granit. It has long term relations with most of its customers (dating back seven to eight years).

# Sustainability issues in stone processing

## Child labour

### **Normative framework**

Article 32 of the UN Convention on the Rights of the Child forbids children under the age of eighteen to conduct “work that is likely to be hazardous or to interfere with the child’s education, or to be harmful to the child’s health or physical, mental, spiritual, moral or social development”. China has ratified this convention which means it is also part of China’s legislation. China’s “Prevention and Cure Regulations of Pneumoconiosis” (1987) states that teenagers under eighteen are not allowed to work in dust-related industries (Article 12).<sup>33</sup>

### **Research findings**

SwedWatch and SOMO have not found any evidence of children working at any of the stone manufacturers that we have investigated.

## Forced labour

### **Normative framework**

According to the ILO’s “Abolition of Forced Labour Convention (ILO No. 105)” it is forbidden to make use of any form of forced or compulsory labour. The definition of forced labour includes forcing people to work for any of the following:

- as punishment for expressing political views;
- as a method of mobilising and using labour for purposes of economic development;
- as a means of labour discipline,
- as punishment for having participated in strikes; or
- as a means of racial, social, national or religious discrimination.

The C29 Forced Labour Convention defines forced labour as “*any work or service which is exacted from any person under the menace of any penalty and for which the said person has not offered himself voluntarily.*”

China has not ratified the two ILO conventions concerning forced labour.

According to the article 32 of the “Advice on the Implementation of Labor Law of

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<sup>33</sup> <http://www.lawtime.cn/zhishi/aqscf/xiangguanfangui/2007042563413.html> accessed on 13 December 2007.

China” (1995), an employee should inform the employer of his or her resignation in writing, giving 30 days’ notice. After that, the employer must follow the legal procedures to end the employment relationship.

### **Research findings**

SwedWatch and SOMO have not found any evidence of forced labour among the investigated stone manufacturers as regards any obstacles against leaving a company. In Fujian, Western Shandong, and Eastern Shandong, workers confirmed that they can resign as they wish without any wage payments being withheld. Only for factory B1, where most workers have a written employment contract, it was reported that workers need to submit a written application in advance that needs to be approved by the management before they can leave the company. In some factories, however, there is evidence of compulsory overtime. This is detailed in the section on working hours and overtime.

## **Health & Safety in general**

### **Normative framework**

The relevant ILO Conventions for Health and Safety are the Chemical Convention nr 170, the Occupational Safety and Health Convention nr 155 and the Working Environment Convention nr 148. These conventions primarily outline the fact that the employer has a responsibility to provide a healthy and safe working environment for its employees. The conventions also prescribe how this should be achieved, and cites examples including giving information and training, promoting cooperation between employees and employer on health and safety issues, and providing medical health check-ups. For a detailed review of the paragraphs focused on in the research, see Annex 1. China has ratified the Chemical Convention and the Occupational Safety and Health Convention, though not the Working Environment Convention.

Health and safety issues with the same intention as the aforementioned ILO conventions are also specified in Chinese national legislation, as for example in the Labour Act of 1994.<sup>34</sup> China has a specific regulation on the “Prevention and Cure Regulations of Pneumoconiosis” (1987) and a law on the “Prevention and cure of occupational disease” (2002).<sup>35</sup> These require medical check-ups including an examination of the lungs.<sup>36</sup> Chinese law also requires employers to keep records

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34 The Labour Act, Chapter VI, Dated 5 July 1994, <http://www.ilo.org/dyn/natlex/docs/WEBTEXT/37357/64926/E94CHN01.htm#Chap6>, downloaded 2007-11-30. For an overview of Chinese Health and Safety legislation, please see ILO’s NATLEX database, [http://www.ilo.org/dyn/natlex/natlex\\_browse.details?p\\_lang=en&p\\_country=CHN&p\\_classification=14&p\\_origin=COUNTRY&p\\_sortby=SORTBY\\_COUNTRY](http://www.ilo.org/dyn/natlex/natlex_browse.details?p_lang=en&p_country=CHN&p_classification=14&p_origin=COUNTRY&p_sortby=SORTBY_COUNTRY), downloaded 2007-11-30.

35 Pre-study on legal issues from Staphany Wong, Researcher at IHLO.

36 “Prevention and Cure Regulations of Pneumoconiosis” (1987), Article 19 and The Ministry of Health has issued “Items and Intervals for Medical Check-ups for Occupational Health” in 2002. Item 54 prescribes check-ups in dust-related workplace to involve X-ray of the

of accidents, injuries and health effects.

### **Research findings – Fujian**

The administrative manager of Supplier A reports that one serious accident occurred in the factory in 2005, two in 2006. By October 2007 one had occurred. Managers or workers at the other factories did not report any major accidents, but it should be noted that accidents resulting in several lost working days are sometimes regarded as minor ones. The most frequent injuries are cuts and bruises to the hands that occur during the moving of the stones. According to the workers, these happen on a daily basis.

Health and safety training is generally either very limited or not provided at all. Suppliers A and C state they provide training on machinery operation. Supplier C's training is focused on the management, but supervisors of Supplier C inform and remind other workers about health and safety issues. An expert has visited factory B1 to inform the employees about occupational health and safety issues. Compulsory thirty-minute lectures are given every month, usually before the beginning of the working day, about normal operating procedures, moving loads, and crane operation. According to workers, none of the suppliers provide any training about health and safety.

Apparently, none of the companies inform workers about work-related health risks, such as silicosis or hearing damage, nor do they provide training about the appropriate use of personal protective equipment. Furthermore, none of the suppliers in Fujian had health & safety committees involving employees. Awareness about health risks among workers was generally low.

Suppliers A and C claim that they do provide annual medical health check-ups, in accordance with Chinese law and the ILO convention on the Working Environment. Supplier A does not, however, include chest examinations. Supplier C claims it conducts medical check-ups annually in cooperation with the local hospital including inspections of eyes, weight, height, lung capacity, liver, and hearing. Both A and C state they have not discovered any occupational sicknesses thus far. In contrast to this information, all workers interviewed at A and C said there had never been any medical exams, either for new or existing employees. At B1, no medical exams had as yet taken place in the first three years of operation, though these were planned for every second year.

At factory B2, workers say they receive either very limited medical care or none at all for work-related injuries. Workers at other factories usually receive medical care at a nearby hospital if they suffer an accident.

### **Research findings – Western Shandong**

According to the management at B3, workers need a license to operate the fork-lift trucks and the cranes in the hall for cutting large blocks, as this is dangerous

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lungs.



work. Workers in the gang saw and polishing units, for example, would receive training before they started working in the company. However, several workers at B3, B3S1, and B3S2 say that employees receive no health and safety training when they join. One of the workers said that his employer would sometimes remind him to be careful, yet there was no kind of proper training conducted. Technical skills are passed on from other workers if needed. The workers moving stones do not need to learn any special skills. Workers at these factories also said they have never received any medical check-ups from the factory.

All management groups indicate that minor injuries, especially to the hands, do occur in the factories, for example when workers are moving stones. Some regard this as unavoidable. These injuries may result in lost working days, though not usually more than five per accident. Workers confirm that it is common to get scratches and cuts from working with stones and that they take care of minor injuries themselves. Most workers also said they have not encountered occupational diseases at work.

### **Research findings – Eastern Shandong**

From our observations of the suppliers we found that all of them fail to comply with the ILO Conventions on Health and Safety in one way or another. The interviews with workers conducted by local researchers strongly confirm this picture. Please see below table 1 which summarises the findings from the interviews.

|                                     | <b>Supplier D</b> | <b>Supplier E</b> | <b>Supplier F</b> | <b>Supplier G</b> |
|-------------------------------------|-------------------|-------------------|-------------------|-------------------|
| Total nr of interviewed             | 5                 | 5                 | 8                 | 10                |
| Any health & safety training?       | no (5)            | no (5)            | no (8)            | no (10)           |
| Any safety equipment provided?      | no (5)            | no (3)            | no (8)            | no (8)            |
| Any medical check-ups?              | no (5)            | no (5)            | no (8)            | no (10)           |
| Heard of any occupational diseases? | no (5)            | no (5)            | no (8)            | no (6)            |
| Heard of any accidents?             | yes (4)           | no (5)            | no (5)            | yes (6)           |
| Receives wages on time each month?  | no (4)            | yes (5)           | yes (8)           | yes (10)          |
| Receives wage slip?                 | no (5)            | no (5)            | no (8)            | no (10)           |
| Covered by any insurance?           | no (4)            | no (5)            | no (8)            | no (7)            |
| 10–11 working hours/day in summer?  | yes (5)           | yes (5)           | yes (8)           | no (10)           |
| Any overtime compensation?          | no (5)            | no (5)            | no (8)            | no (10)           |
| Work + overtime is voluntary?       | yes (5)           | yes (5)           | yes (8)           | yes (10)          |
| One day off every seven days?       | no (5)            | no (5)            | no (8)            | no (7)            |
| Paid holiday?                       | no (5)            | no (5)            | no (8)            | no (10)           |
| Paid sick leave?                    | no (5)            | no (5)            | no (8)            | no (10)           |

We can draw the following conclusions:

- According to interviews with the workers, none of the suppliers provide annual medical check-ups, something that is prescribed both by Chinese law and the ILO Convention on the Working Environment. Supplier D claims that it does provide annual health check-ups though.
- None of the suppliers keep track of employees' health by keeping records of accidents, injuries and health effects as prescribed by the ILO Chemical Convention, as well as Chinese law.
- All suppliers (D – G) lack health and safety training. Supplier D claims that an expert visits them twice a month to educate the workers, and Supplier F says the section chief has the responsibility to provide the workers with information on a regular basis. However, the workers interviewed all state that they received no special health and safety training.
- The ILO Conventions on Health and Safety stress the importance of collaborative and participatory health and safety training, which is totally absent. The awareness of the importance of teaching the workers about health and safety issues is generally low. None of the workers in the interviews know of any channels to work with health and safety issues at the workplace.
- From the workers interviews we discover out that 7 out of 10 workers at Supplier G want better safety equipments. They also want to have improved health and safety information.
- Although all suppliers claim that they do provide the workers with safety equipment, the workers did not confirm this in the interviews. Instead it seems that they mostly need to pay for this equipment themselves. Only occasionally do workers receive any complementary safety equipment from their employer.
- Workers at all suppliers in Eastern Shandong were seen to wear glasses while doing hammering work. Some suppliers claim that they give workers money to buy them. However, even if the suppliers are telling the truth, Chinese law does not always allow employers to provide money instead of the required safety equipment.

## Silicosis prevention

### **Normative framework**

The Chemical Convention prescribes the employer to be aware of these sorts of risks. If the industry involves exposure to dust particles, enterprises must provide medical check-ups for all affected workers. Examinations should involve chest X-rays to be carried out each year, both for new and existing employees.<sup>37</sup>

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<sup>37</sup> Ministry of Health, China, "Items and Intervals for Medical Check-ups for Occupational Health", issued in 2002. Ministry of Health, China, "Items and Intervals for Medical Check-ups for Occupational Health", issued in 2002. Downloaded from [http://www.tlws.gov.cn/Article\\_Show.asp?ArticleID=915](http://www.tlws.gov.cn/Article_Show.asp?ArticleID=915) on 12 December 2007.

In China the exposure limit for respirable silica dust is 0,7 mg/m<sup>3</sup> for eight hours' work if the granite contains between 10-50 percent free silica (which is the most reasonable assumption for granite).<sup>38</sup> If quartz levels are higher, the limit is 0,3 mg/m<sup>3</sup>. For machine intensive work it is essential to use special face masks. In order to stop dust from entering the lungs, it is necessary to use a dust respirator with a special fine filter called P3.<sup>39</sup>

Face masks may even be required for workers involved in manual hammering, depending on the direction of the wind, whether it is dry, how many people are working at the same place, and not at least how much quartz the granite contains.<sup>40</sup>

### **Research findings – Fujian**

The suppliers in Fujian seem to be aware of the risk for silicosis, but on a quite superficial level. None of the suppliers are aware of the dust levels in their factory, let alone in the premises of their regular subcontractors. Managers at Supplier A say they have heard of isolated cases of silicosis, though not on a larger scale. Only Supplier B can find information on the composition of the stone. If the quartz levels in the stone are higher, the risks are correspondingly higher, but awareness of this correlation is generally low. Only few of those workers interviewed knew about pulmonary diseases caused by dust. Some of these workers believe that cooked pig blood helps to eliminate dust particles from the lungs.

Factory B1 is relatively orderly and is cleaned every week, although there were dusty piles of tiles, strips and slabs everywhere. The air in the factory B1 did not seem very dusty, though there was a thick layer of dust on the piles of tiles in the hall. The factory hall at B2 was full of dust and fog. The company commented that this is mainly due to bush hammering, a mechanical treatment of the surface of the stone. Dormitories at B2 face the factory floor and dust spreads to the rooms where families with children reside. The factory hall at B2S is very disorganised and dusty. There are piles of blocks and tiles as well as pieces of broken stones all over the place. Outside the factory, the ground is covered by a thick layer of dust. The sludge from the wastewater is dumped in a large heap behind the factory hall, generating additional fine dust when it dries up.

Supplier C's factory looked very orderly and clean compared to other factories in Fujian. The halls are clean with no dust or pieces of broken stones on the floors.

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38 Occupational Exposure Limits for Hazardous Agents in the Workplace GBZ.2-2007, available at <http://www.clapv.org/new/show.php?id=1148&catename=ffg>, downloaded 2007-12-11.

39 The Swedish Work Environment Authority's regulation on Quartz, Arbetarskyddsstyrelsens föfattningssamling, Kvarts, AFS 1992:16, Good Practice Good– Respirable Crystalline Silica, Negotiation Platform on Silica (NePSi), agreed by 25th October 2006, <http://www.hse.gov.uk/aboutus/europe/euronews/dossiers/silica.htm>, downloaded 2007-11-26.

40 Interview with Per Franck, working environment engineer, specialised in stone industry, 2007-11-26.



A worker wearing a cloth face mask is flaming stone inside the factory hall at Supplier C. During measurements in flaming operation outdoors in Swedish stone industry the level of quartz dust was found to be six times higher than the Swedish legal level requires. For this operation the worker should use both a dust respirator and protective mask with P3 filter.



A worker at Supplier C is busy cutting edges (dry), generating a lot of dust. The face mask used is inadequate to stop quartz dust.



A worker at Supplier C is making bathroom sinks, creating a smooth basin shape with a special handheld machine. This job generates a lot of dust. He is wearing a special face mask with inhalation and exhaust valves and filters, but the type of filters could not be checked. However, the worker removed the mask every now and then to smoke a cigarette.

The halls all have concrete floors and are apparently swept with water (the floors were wet). There are straight, orderly wastewater canals along the sides of the halls.

All suppliers use water sprays for dust prevention and for cooling saws and polishing machines. The buildings are all more or less semi-open which also helps reduce dustiness and improve air quality. Some factory halls, such as A and B1, have fans in the ceilings.

Face masks seem to be used occasionally in flaming, dry edge cutting, and hole drilling, but the quality of the protective masks was generally inappropriate. Supplier A provides face masks made of cloth, which are inadequate to prevent the inhalation of quartz dust. The factories B1 and C also provide a better quality face masks for some specialist operations, but SwedWatch checked Supplier B1's mask with working environment experts in Sweden and they all concluded that it was inappropriate to prevent quartz dust inhalation, since the very fine dust particles pass through the filter. Researchers saw workers at B2 involved in high-risk working areas without face masks.

At Supplier C two women were dry-sweeping the floor outside the halls, surrounded by dust. They had covered their heads with hats and cloths. This method of cleaning is not advisable since the quartz dust is then dispersed with obvious negative consequences. Most other workers at supplier C were wearing simple face masks that fitted snugly against their faces but these are insufficient to protect against quartz particles. Moreover, it was later discovered that most workers do not wear them regularly.

Supplier C is the only supplier who claims to provide lung examinations in cooperation with a local hospital each year, something that is necessary to detect silicosis in its early stages. According to workers interviewed, however, none of the suppliers in Fujian provide any medical examinations.

### **Research findings – Western Shandong**

The blue limestone that is quarried and processed in Western Shandong has a very low silica content and there is no risk of silicosis. This sub-section therefore deals with dust prevention in general.

At all factories, the edges of tiles and paving stones are cut using unwatered handheld machines. This type of work usually generates most dust. No edge cutting was ongoing at the time of the visits, however. None of the workers in the factories visited were wearing face masks, and employers did not provide them.

The cement floor at the packing hall of factory B3 is relatively clean, but other areas are dustier. At B3S1, there is a tailings pond inside the courtyard, next to the area where stones are packed. There of a heap of tailings near the pond that is removed every fifteen to twenty days. The courtyard, which is used as a storage area for slabs, stones and tiles, is very dusty. A thick layer of dust covers the





A worker is busy dry cutting for one of the subcontractors to Supplier D. Despite the dust he is not wearing any protective mask.

floors. At B3S3, the entire courtyard floor is covered with small, round gravel. This appears to be very effective in preventing dust particles from rising up and provides a relatively even surface.

The working areas in B3, B3S1, and B3S3 are usually not cleaned. Workers can do so themselves if they wish, but no special arrangement would be made for cleaning.

### **Research findings – Eastern Shandong**

The rough stone cutting operations in Eastern Shandong generate less dust than the stone processing operations in Fujian. Therefore health risks in general, and silicosis risks in particular, are lower at the factories in Eastern Shandong than in Fujian. However, the protective masks were generally inappropriate for flaming and dry edge cutting. None of the employers in eastern Shandong seemed to be aware of the fact that a special P3 dust respirator is needed to prevent silicosis. We saw one worker at the subcontractor to Supplier G who actually used a dust respirator when doing dry-polishing outdoors, but we never had a chance to investigate the quality of this mask. The researchers also saw a worker dry cutting at one of Supplier D's subcontractors without any protection at all.

Those working with manual hammering were generally not provided with any protective masks. The general opinion among the suppliers was that manual hammering was not a risky job. Therefore it was believed that there was no need

to take any extra precautions, as compared to quarrying, for example. At one of the suppliers, Supplier D, the manual hammering workers were using cotton face masks at the time of our visit, despite the fact that these are entirely useless to prevent quartz dust inhalation.<sup>41</sup>

Knowledge of the required dust levels was very low. None of the suppliers knew the legal limits for quartz levels. Some reported that governmental inspections did involve checks of dust levels, but claimed that they never received any results. It was also not clear whether these dust measurements were checking quartz, or merely the general levels of dust.

None of the suppliers knew the percentage of quartz in the granite they used. The percentage of quartz in the granite determines how high the risk for silicosis is. If the quartz level doubles, the risks in the workplace also double, meaning that the safety measures should be adapted accordingly.

The following conclusions can be drawn:

- The fact that none of the suppliers were aware of the percentage of quartz in the granite they use, shows that all the suppliers demonstrate a serious lack of responsibility when it comes to monitoring the risks concerning the safety of the working environment (see for example items 1 and 2 under the ILO Occupational Safety and Health Convention, see Annex 1).
- Risk assessments are not made according to proper dust measurements, something that is required to determine whether existing equipment is adequate. Dust measurement needs to be implemented at the workplaces.
- The face masks seen at most of the workplaces do not provide adequate protection against quartz dust. The safety equipment needs to be upgraded to fulfil the requirements of the ILO Conventions on Health and Safety.
- The awareness about the risks of silicosis among the workers is generally very low. Out of 28 interviews with workers at the four suppliers, only four (at supplier G) said that they had ever heard of any occupational diseases.

## Other protective measures

### **Normative framework**

Article 20 of the Law on the Prevention and Treatment of Occupational Diseases requires employers to provide effective and appropriate protective equipment, according to the type of work. A State Council Document (1988) further specifies that it is not permitted to provide equivalent cash payments instead of the required protective equipment.<sup>42</sup> The ILO Working Environment Convention and

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<sup>41</sup> Meeting with specialists at Swedish Association for Occupational and Environmental Health and Development (UFA), Stockholm, 2007-11-28.

<sup>42</sup> Document (1988) number 10, Issued by State Council, on 22 March 1988.





Polishing workers employed by Supplier A.

the Occupational Safety and Health Convention also prescribe that the employer is to provide for necessary protective equipment free of charge.

China's Safety Production Law (2002) also deals with potential safety hazards at the workplace (see articles 32 and 96). Clause 2 of this law contains a range of regulations on machine safety. In brief, the law specifies that:

1. The employers have to provide training to employees who operate the machinery;
2. The machinery has to be regularly checked and approved by work safety experts before being operated (there is a licensing system); and
3. The employers have to upgrade the machinery to match more advanced standards.

Chinese law requires hearing protection for noise levels exceeding 85 dB during a working day of eight hours. The noise level should not exceed 115 dB at any time.<sup>43</sup> The diamond cutting saws generally reach noise levels of approximately 100 dBs.<sup>44</sup> Daily exposure of just fifteen minutes per day at this sound level is enough to cause damage to hearing.

### **Research findings – Fujian**

At all factories, heavy loads are moved by hand. Although all factories have ceiling cranes, mostly to move raw blocks and slabs, packing is always done manually even for paving stones that must weigh more than 50 kg. In most factories, large slabs and tiles are also moved to and from the machines by hand. In factory B2, small carts are used for this purpose.

In the interviews with workers, it was found that the investigated factories usually do not provide protective equipment free of charge. Workers therefore have to buy their own glasses, face masks, gloves, rubber boots, aprons, earplugs, or helmets as they see fit. Only supplier A sometimes provides complementary face masks and rubber boots, but this is not common. The protective equipment is not provided to the subcontracted cutting workers (see the section on employment relations and contracts).

Standard equipment includes gloves and glasses for flaming, as well as boots, aprons and sometimes plastic gloves for wet cutting and polishing work. Many workers in wet areas also wear plastic shoes against the water. At factory B2, many aprons in the polishing unit are worn down and torn.

At B2 most workers wore helmets. However, when we visited the factory again after lunch, all the helmets had been removed. Cotton gloves for moving stones

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<sup>43</sup> Email from Xu Bo, Stone China, to SwedWatch, 2007-12-06.

<sup>44</sup> SwedWatch interview with Per Franck, Working environment engineer specialised in stone industry, 2007-11-26.

are only rarely used, and safety shoes are not used in any of the factories.

Supplier A claims that all factory workers are required to wear helmets, face masks, uniforms and shoes, or risk paying a fine. However, this does not seem to be followed in practice. All suppliers stated that hearing protection was required in the areas with large gang saws only, yet even in these areas many workers did not wear ear plugs, and if so only during visits. In factories B1, B2, and C, all workers wore helmets. However, it was later discovered that these factories only provide helmets to be worn during visits.

Some workers find face masks, gloves and earplugs uncomfortable. That said, some workers do wear gloves or face masks even though they have had to buy these themselves. At factory B1, first aid boxes and fire extinguishers can be found in the factory hall, yet this is not the case at the other factories.

Supplier C is the only one of the suppliers to have machines with large red and green buttons, apparently designed to improve machine safety. Supplier C also claims that the Work Safety Administration checks the safety of the machines every year, and provides inspection labels. However, when researchers asked to see these labels various excuses were given as to why this was not possible.

At some factories, there is a risk of short circuits and/or electric shocks. At subcontractor B2S, unprotected electric sockets and wires, some of which lack an outer layer of isolation near the sockets, lay on a wet floor in an area with wet cutting and polishing operations.

Most factories have tailings pools outside the factory halls for water recycling. Usually this water is used for large gang saws and cutting machines only, not for smaller handheld machines. A manager at supplier C explains that the water is treated with bleaching powder. In this factory the water is also used for the handheld machines. At B2 the tailings are submerged in open pools in front of the building where the offices and dormitories are located. This can be dangerous, particularly due to the fact that families with small children are living inside the factory area.

### **Research findings – Western Shandong**

At most factories, all workers in the polishing and cutting units were wearing caps, aprons, and boots during visits. Gloves were used by all workers in B3S2, but only by a few workers in the other factories. At B3, the management explained that gloves are provided, but only a few workers used them because they find the gloves inconvenient when moving stones. According to workers of B3, B3S1, and B3S2, the factories do not provide protective gears. Some workers also said that they used to get free gloves in the past, but that management now tells workers that they should buy such equipment themselves. At the small family enterprise that is subcontracted by B3S3 to cut raw blocks, the workers do not have any protective equipment either.

At B3, large stones are moved around the factory on pallet jacks. However, crates are packed manually at all factories, and paving stones can weigh more than 60 kg. At B3S1, for example, a group of women was packing large paving stones of approximately 100 cm x 100 cm x 4 cm. It took three people to lift such stones. The floor of the packing area was uneven, and there were small pieces of broken stone all over the place. There were no carts or pallet jacks available to move piles of stones during the packing process. As a result, the stones sometimes have to be carried several meters between the piles and the crates. Similarly, at B3S3, a worker was carrying stones from the cutting machine to a pile about 10 metres away. The manager explained that this is still “close enough”.

At B3, some places with polishing machines were very wet and workers were standing in pools of water.

### **Research findings – Eastern Shandong**

None of the suppliers ensure that all employees use necessary safety equipment. Hearing protection is absent at every workplace except Supplier F’s main factory. According to the management of Supplier F hearing protectives are also given at the joint venture.

- Even if all suppliers claim that they bear the costs of safety equipment in line with the requirements stipulated in the ILO Occupational Safety and Health Convention, many workers told local researchers that they did not receive any protective equipment from their employer.
- For example, at Supplier G, eight out of ten workers claim that they did not receive any complementary protective equipment. At Supplier D two workers in the main factory and three at the quarry all certified that they had to buy any protective equipment with their own money.
- Supplier F told us that they gave workers at the joint venture money to buy glasses, and they claimed that the workers preferred this as they could buy a pair of cheap glasses and keep the rest of the money. This does not, however, comply with Chinese legislation (see above).
- The most common explanation for the lack of protective equipment was that it was available, but the employees did not want to use it. This is only confirmed by interviews with workers in some cases. According to the workers, it was more common that the workers did not receive any protective equipment at all. The employers generally seemed to be quite despondent when the issue came up. Most of them thought that it would take time to make the workers use the safety equipment. Few of them could present any ambitious training schemes or reasons to promote their usage.
- According to interviews with workers at the various suppliers none of them had received at any kind of health and safety training.
- At the main factory of Supplier F, where the use of protective equipment seemed to be better, the manager told us it had introduced a system where each section chief was held responsible for the workers in “his” team for wearing

safety equipment. If a supervisor or higher chief saw that a worker was not wearing it, the section chief would have a small amount of his wage deducted. According to the CEO this was very helpful, although not confirmed in the interviews with workers.

- For hearing protection there was a prevailing opinion that this was not needed, especially for manual hammering operations. For some of the suppliers with manual hammering only, or well separated work places between manual hammerers and machine operators', the workers may indeed not need to wear ear plugs.<sup>45</sup> Supplier E and Supplier G had well separated work places at their own production sites. Supplier F and Supplier D would however need to check the sound level at the hand hammering at their own production sites, where the diamond cutting devices were in operation quite close by.
- Workers at suppliers D, E and G were all required to pay for their own tools and this led to complaints since workers claim that this was quite expensive. Supplier G defended the situation arguing that "if the workers pay themselves they take better care of the tools" also adding that all workers are very flexible, moving workplace from season to season, with all of them bringing their own toolboxes. The same argument was used by the employer for not providing workers with electric blankets despite freezing winter temperatures and no heating systems in their simple dormitories. "We give the electricity for free", said the manager for Supplier G.

For protective masks, see the section above on silicosis prevention.

## Dormitories and meals

### **Normative framework**

Even if none of the ILO conventions 170, 155 or 148 expressly prescribe how the living conditions at dormitories should be, the general spirit of these conventions and the requirement of the municipalities should be interpreted in a way that buyers must also care of the living conditions for the workers. In China employers are not required by law to provide accommodation for workers. However, if they do so, the dormitory has to comply with the "Regulations on Fire Prevention".<sup>46</sup> If the factory provides or sells meals to workers, they have to comply with China's Food Hygiene Law (1995), which specifies hygiene standards concerning food, canteens, kitchen utensils, as well as water quality.

### **Research findings – Fujian**

Although all three suppliers in Fujian provided dormitories for at least some of the workers, SwedWatch and SOMO unfortunately only visited the dormitories of B2. Some workers at B1 also lived in a dormitories owned by the company,

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<sup>45</sup> Ibid.

<sup>46</sup> "Regulations on Fire Prevention", issued by State Council, implemented since 13 May 1984, downloaded from <http://www.firecn.net/law/html/2006/07/20060724085033.htm>, 14 December 2007



though not at the same site as the factory. These dormitories were not visited either.

At B2, many workers come to the factory with their families and it is common for both husband and wife to work at the same factory. Dormitories are located inside the factory area in the same building as the office. Even some families with small children live in this type of housing. According to the management, some 50 workers were living there at the time of the visit. As the building only has one exit, the rooms on the upper floors would be unsafe in case of fire. The rooms were quite crowded with several bunk beds in each room. Due to limited space and lack of privacy, many workers rented apartments outside the factory. The management later explained that the dormitories would be converted into offices and that people would go to live in dormitories provided outside the factory in two years time.

### **Research findings – Western Shandong**

None of the visited companies had dormitories and all workers lived in the area. Some workers were provided with meals though. According to the workers kitchen staff buy the cheapest vegetables available. Meals were to be filling, not necessarily nutritious.

### **Research findings – Eastern Shandong**

All suppliers provide dormitories, except supplier E as its local workers had their own homes in nearby villages.

- At Supplier D some workers live at home and others live in the dormitories provided by the factory free of charge. The dormitories were in a poor condition with overcrowding (thirteen bunk beds in one room) and no privacy. Hygiene around the dormitory was also poor; rubbish was put right outside the room causing a foul smell.
- Supplier G provides dormitories both at their fully owned factory and at the joint venture that they showed us. At both sites the rooms are overcrowded, windows are broken and no mattresses are provided. Some workers tell us of the freezing temperatures during the winter. Hygiene standards were very low. The general impression was that these living conditions were inhuman and should be improved urgently. This is confirmed by interviews with the workers. Seven out of ten complained about the poor quality of both dormitories and meals at Supplier G, and called for these to be improved.
- Supplier F's dormitory at the fully owned factory had a slightly higher standard as compared to suppliers G and D, but was also in need of improvement as regards to hygiene and space. Unfortunately we did not have the possibility to see the dormitories of the joint venture of Supplier F, but we would highly recommend the buyers to look into the conditions at these dormitories as well.
- In all dormitories we visited, we found a large number of alcohol bottles. Supplier G's staff also told us that workers drank a lot of alcohol in winters to keep themselves warm, as no heating is provided in any of the factory facilities.

This drinking for warmth and should be brought to public attention, as should the lack of recreational programmes, especially in the workplaces located in remote areas where workers do not have any access to entertainment at all. Eight out of the ten workers interviewed at Supplier G expressed a desire to have television installed in their dormitories.

## Employment relationships and contracts

### Normative framework

According to China's new Labour Contract Law that comes into effect on 1 January 2008, employers will be required to provide each employee with a written contract.<sup>47</sup> Companies must also provide a handbook of company policies and procedures developed in consultation with worker representatives. This law is predicated by a national Chinese law of 1994 that states that each employee should have a written employment contract. The Labour Act stipulates that: "A labour contract shall be concluded where a labour relationship is to be established".<sup>48</sup>

### Research findings – Fujian

All the factories in Fujian use subcontracted workers. These workers work at the factories like other employees, but they are hired via section heads, many of whom are migrant leaders. The factory does not sign formal employment contracts with these people and therefore does not establish a direct employment relationship. Subcontracted workers work mainly in cutting operations, which are regarded more risky than other work types.

For most companies, there is a low season from October to February. During this period, a part of the piece rate workers go home because there is less work. Workers reported that in general, companies hire less or no temporary workers during the low season, but do not dismiss long-term workers.

Supplier A claimed that permanent employees had labour contracts. However, ten interviewed workers stated that none of them had received an employment contract.

All or nearly all employees at supplier B1 are permanent workers and have one-year contracts that are renewed on an annual basis. This was confirmed by ten interviewed employees. Cutting operations used to be subcontracted to section heads, who were in charge of contracting the workers in their own section. However, the company has now started to provide direct contracts to cutting workers as well. More than 70-80 percent of the workers are migrants from other provinces or elsewhere in Fujian. Some workers have been working at the factory for more than two years, but other workers are farmers and according to the man-

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47 Global labor strategies, [http://laborstrategies.blogs.com/global\\_labor\\_strategies/](http://laborstrategies.blogs.com/global_labor_strategies/), downloaded 2007-11-22.

48 The Labour Act, Chapter III, section 16, Dated 5 July 1994, <http://www.ilo.org/dyn/natlex/docs/WEBTEXT/37357/64926/E94CHNO1.htm#Chap3>, downloaded 2007-11-27.



agement they readily leave the factory again. There is also strong competition for labour now. After one or two years, many workers apply for positions as heads of section at other factories. Then they can subcontract projects and earn more.

At B2, many workers have already been at the factory for seven years. There are migrants from other provinces, such as Sichuan, Guizhou, Anhui, Henan, and Jiangxi. Usually workers stay in the factory for at least two or three years. According to the management, this is because of good pay, compared to smaller workshops, and constant production throughout the year, which is unusual at other factories. However, workers do not have labour contracts with the employer. This was later confirmed in interviews with the workers. The management explains that they are temporary workers or contracted by the section heads rather than the company. However, one section head says that he is employed by the factory to manage workers of one of the processing units. He receives a fixed wage from the company himself and is in charge of distributing wages from the company to the workers of the unit according to production, but explains that he is not responsible for providing the workers with contracts.

According to Supplier C, all employees have employment contracts. During the visit, members of the management presented a blank standard contract, but could not show an example of an actual contract because the person who files these was not at work that day. Interviews with workers revealed that they sign a one year contract, but do not receive a copy of it.

### **Research findings – Western Shandong**

All stone industry workers in this area are local people. Most of them are farmers too. Some workers explained that they work at the factories to earn more money for their children to study. At B3, most workers have been working at the factory right from the start and sometimes both husband and wife work for the same company. At B3S1, the turnover of workers is high because they sometimes move to other factories. Conversely, most workers at B3S2 have been employed by the company for several years.

Managers of both B3S1 and B3S2 stated that workers have written contracts. However, for B3S1 these are only available from the government and B3S2 was not able to show us any contracts because the accountant was not in the office. Subsequently it became evident that there were in fact no written contracts.

### **Research findings – Eastern Shandong**

None of the suppliers provided any of the employees with individual employment contracts as prescribed by Chinese law. Supplier D claimed it did, but this was not confirmed by interviews with the workers and the researchers that applied for work did not receive any contracts either.

## Working hours and overtime

### Normative framework

According to Article 36 of the Chinese National Labour Law the employer should “*practise a working hour system under which labourers shall work for no more than eight hours a day and no more than 44 hours a week on the average.*”<sup>49</sup>

Enterprises which have demand for an irregular employment, due to special circumstances are able to adopt a comprehensive working hours system.<sup>50</sup> This could also be valid for the stone industry. However, enterprises must receive prior approval from the Labour and Social Security Bureau at city level and the case must be reported at national level, i.e. Ministry of Labour and Social Security. The employers must get such approval before making any changes to working hours.

### Research findings – Fujian

According to management at the suppliers in Fujian, normal working hours lie at around 40 hours per week. However, interviews with workers indicate that all companies require them to work seven days per week, with no days of rest, except during low production periods. It is therefore common that a working week ranges between 56 and 77 hours. In reaction to these findings, company B commented that workers are free to rest at any day they like. The company also stated that a normal working week is 48-56 hours, which is common in other sections of the Chinese industry, like the toy and shoe sectors as well.

The companies regard additional evening work as overtime, but not the seventh day each week. For some workers paid on a piece rate basis, especially subcontracted workers in cutting operations, there are no fixed working hours.

At supplier A, the regular working schedule is eight hours per day. However, overtime in the evenings is required if there is a tight delivery schedule, usually from 18:30 to 22:00. Subcontracted cutting labourers work from 08:00 to 20:00 with some breaks in between. Every Friday night, work continues until 02:00 at night. Ten interviewed workers said they need to give “reasonable reasons” to get leave. If they take a day off or miss overtime work without a valid reason, they might get fines ranging from 10 to 100 Yuan. This proves the existence of compulsory overtime at Supplier A.

At B1, the machinery workers work in shifts, whilst the others work in just one shift. The management says it tells the workers about the orders from buyers

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49 The Labour Act, Chapter IV, section 36, Dated 5 July 1994, <http://www.ilo.org/dyn/natlex/docs/WEBTEXT/37357/64926/E94CHN01.htm#Chap4>, downloaded 2007-11-27.

50 “Approval Method on Enterprises Practicing Irregular Work System and Comprehensive Working Hours System (Order 503)”, issued by Ministry of Labour and Social Security, implemented since 1 January 1995, downloaded from <http://www.bjld.gov.cn/LDJAPP/search/fgdetail.jsp?no=739> on 14 December 2007.

and that workers can then decide if they want to work overtime. The workers operate in units and could thus have a lot of control over their own working hours, but usually overtime would be performed only by the factory as a whole because there are substantial fixed costs to keep the factory in operation. Workers mentioned that overtime sometimes goes on until 20:00 or 23:00, depending on orders. It is not known if this happens often. According to the management, workers on fixed wages receive overtime payments at a higher hourly rate whilst those on a piece rate are merely paid on the basis of what they produce. The piece rate workers make up around 70-80 percent of the total workforce at B1.

At B2, some units such as those working with polishing only work during daylight, 8-12 hours according to workers and 6-9 hours according to the management. The management indicates that most other production units have two shifts. Workers with a fixed wage performing auxiliary jobs usually work eight and a half hours per day. The management explains that there is usually no overtime, only if all units agree, because the company pays for the fixed costs of keeping the factory in operation. Workers indicate that they generally work 8.5 hours per day and do “very few overtime hours unless there is a tight delivery”. Comparable data for B2S are not available.

At supplier C, the regular working day for all workers is eight and a half hours, which was confirmed by time-recording cards. Similar to B1, there may be additional overtime for production workers until 20:00 or even 23:00. For the piece rate workers, who make up the vast majority of the employees, supplier C does not check the precise working hours.

If workers need to work for seven days per week, without a day of rest, companies are legally required to get approval from the local labour bureau (see normative framework). However, the companies stated it is common practice to work like this and did not mention that they had obtained prior approval.

In some cases, the findings from the workers’ interviews indicate violations of Chinese labour laws. At B1 and B2, for example, some workers had a fixed working schedule of twelve hours per day for seven days per week. This means a total of eight-four working hours each week, much higher than permitted by Chinese law.

### **Research findings – Western Shandong**

Officially, the standard number of working days differs among companies. At B3, the working week consists of five or six days, at B3S1 and B3S2 of six days, and at B3S3 of five days. The official working day lasts between eight and nine hours. In practice, however, workers have flexible working hours and can decide their own working schedule. Many workers normally work every day from dawn to dusk. Some do not take any days off, whilst others take two to four days off per month. In general, there is no need to apply for leave because the workers are paid on a piece-rate basis.

Attendance records at B3S2 confirm that some workers come to work every day for weeks in a row without any days of rest. The management explains that they prefer to work every day to earn more. Workers can have a day off on Sundays, but if they want to work on Sundays that is possible too. However, if workers do not show up (on other days) without explanation, they are fined 30 Yuan. At B3S1, Government inspectors have advised people not to continue working too late.

It should be noted that factories do not operate when it rains. In addition, some labourers work less during the harvesting season. At B3, for instance, there is a low production season in June and July. The factory operates in one or two shifts, depending on the amount of orders. According to the management at B3S1 and B3S2, their production volumes are stable and there are no significant peaks in production. The management of B3S2 explains that workers do not come to work if they must work on their fields, similar to the situation at B3.

Most workers interviewed stated that they are never obliged to work overtime and in those cases where they do, workers generally accept overtime arrangements. According to the management at B3S1 workers usually work between three and four hours' of overtime per week. During weekends, wage payments at B3S2 are 30 percent higher because weekends are regarded overtime. Other companies did not mention a premium rate for overtime work, such as on Sundays for instance.

### **Research findings – Eastern Shandong**

Generally, all employees are temporary piece rate workers, except office employees and machine operators. As the workforces at these suppliers are primarily manual hammering workers almost all employees were found to be temporary seasonal workers paid on a piece rate. That said, suppliers F and D had fixed workers employed at their fully-owned factories. The machines operators at supplier E were fixed workers, though they only represented a minority of Supplier E's total workforce.

The seasonal workers worked approximately 200 days a year in three seasons:

- One from the end of October to Chinese New Year (celebrated between January and February).
- One starting after Chinese New Year leading up to early June.
- One from mid July to September.

Supplier E seemed to employ mainly local farmers as seasonal stone workers, but the other three suppliers all employed migrant workers coming mainly from South Shandong.

The seasonal workers all worked on a piece rate only. They work as long as the sun light permits producing as many kerbstones or paving stones as possible

according to their skills and strength during this time. Normally this involves eight hours per day according to the employers. In summer workers often start early in the morning, because of the heat, but then take a few hours off at midday and work from the late afternoon until the evening. In winter the working days are normally less than eight hours, according to the suppliers. Based on the accounts given by workers in interviews the employees tend to work eight hours a day in the winter season and ten to eleven hours in the summer.

The working hours are neither regulated nor registered. It is up to each piece rate worker to work as much as he or she wants. The most common situation seems to be that piece rate workers work seven days a week. At supplier D four manual hammering workers tell SwedWatch's researcher about their working conditions.<sup>51</sup> They have worked in the factory between two to six years. They say that they can go to work at different hours, generally between 6.30 to 8.30 am and will leave work at about 4 or 5 pm. They say that they work five to six days a week. However, in interviews conducted away from management, workers said they work every day and only take time off when they feel sick.<sup>52</sup>

The same was established from interviews at supplier E, F and G. The majority of the workers said they work every day of a month. Some workers say they can take two or three days off each month during low season. They receive no compensation for overtime.

On the basis of these findings, the following can be concluded:

- No records are kept about working hours.
- According to Chinese law, employees have the right to one day of rest per seven days of work.<sup>53</sup> This is evidently not always followed. Supplier F for example states that their employees, even those at the fully-owned factory, work seven days a week. The manager at Supplier F believes that this compensates for the fact that the workers are later free for longer periods during harvesting and seeding. "We also stop the work during heavy rain, because the electric cables cannot take it", he says. This is a clear breach of the law, which clearly prescribes one days rest every seven days, as long as the company has not obtained special permission.

## Wages

### **Normative framework**

China's minimum wages differs between provinces or even districts within a

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<sup>51</sup> These interviews were done at our official visits and the workers saw us coming with the employer, so the "truth" of these interviews must be considered.

<sup>52</sup> Interviews with five workers at Supplier D during November – December 2007.

<sup>53</sup> The Labour Act, Chapter IV, section 38, Dated 5 July 1994, <http://www.ilo.org/dyn/natlex/docs/WEBTEXT/37357/64926/E94CHNO1.htm#Chap4>, downloaded 2007-11-27.

province. The minimum wages in the relevant districts in Fujian range from 570 to 700 Yuan per month. The minimum wages in the relevant regions in Shandong are set at 610 Yuan per month. It must though be remembered that the minimum wages are set rather low and that these amounts can hardly to be considered as a living wage (that is a wage that can cover basic costs for a family of three). According to the management of company B, the minimum cost of living for a small family would be some 700 Yuan per month in the area of B1 and 800-900 Yuan per month in the area of B2 and B2S.

For each Chinese city, the local labour and social security bureau determines new minimum wages once every one or two years, in both monthly and hourly wage formats. The figure calculated is based on a normal 44-hour week. The law requires employers to pay employees no less than 150 percent of their hourly wage in case of arrangements made with employees to work beyond normal working hours; to pay employees no less than 200 percent of their daily or hourly wage in case of an arrangement for employees to work weekends; to pay employees no less than 300 percent of their daily or hourly wage in case of arrangements for employees to work on public holidays.

According to Chinese labour law, wages shall be paid out on a monthly basis.<sup>54</sup> According to the Interim Regulations on Payment of Wages (1995), wages must not be paid more than one month after the last working day of the corresponding period, for example a worker's wage for 1 to 31 July must be paid on 31 August at the latest.

### **Research findings – Fujian**

At all suppliers, cleaning and security jobs receive the lowest remuneration. The wages for these jobs are paid on a daily basis (working day). The earnings of piece rate workers are determined by production levels, depending on the thickness of the tiles, for example. Suppliers A and C claim that they compensate overtime at a premium rate, 150 percent after eight hours and 200 percent in weekends, in accordance with national legislation. However, as described in the previous section on working hours and overtime, in practice only additional evening work is regarded as overtime and work on Saturdays or Sundays is not.

All companies transfer wages to the bank accounts of workers. Suppliers B1 and C do this one month afterwards, paying wages for September in November, for example. None of the companies provides a clear wage slip showing how the wage was calculated and what deductions have been made for social insurance.

At supplier A, most workers earn fixed wages instead of piece rate wages, including skilled workers. The base wage is 800 to 1,000 Yuan per month for ordinary workers and 1,200 to 1,300 per month for skilled production workers. Overtime work is paid at a fixed hourly rate of 3.3 Yuan, which is low compared to the regu-

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<sup>54</sup> The Labour Act, Chapter V, section 50, Dated 5 July 1994, <http://www.ilo.org/dyn/natlex/docs/WEBTEXT/37357/64926/E94CHNO1.htm#Chap4>, downloaded 2007-11-27.



lar wage. Including overtime payments for evening work, total monthly earnings range from 800 to 2,000 Yuan. New workers initially receive the minimum wage, which is 700 Yuan per month in the area where Supplier A is based. Overviews of working days and evening overtime hours are displayed on a bulletin board in the factory.

According to the management at B1 auxiliary workers receive a fixed wage of 50 Yuan per day. However, one worker mentioned a fixed wage of only 600 Yuan per month for work up to seven days a week. Production workers have guaranteed base wages ranging from 600 to 1,200 per month, regardless of production levels. If production levels are met, which is usually the case, the piece rate system allows them to earn more. The average monthly wages for skilled production workers are between 1,500 and 2,500 Yuan. All production is paid at a similar piece rate, regardless of working hours. There is a notice board near the gang saws that shows the achieved production, and the management explains that it shows to workers how wages are calculated.

Machine polishing workers at B2 earn about 2,400 Yuan per month. Some temporary workers from a different unit stated that they earn between 1,100 and 1,400 Yuan per month. One of these workers also explained, “If we ruin the stone, we have to pay for it ourselves”. Workers on a fixed wage receive base wages of 800 to 1,200 Yuan per month and overtime payments of 4 Yuan per hour. The machine polishing workers complain that their income has dropped despite the fact that living costs have increased dramatically in recent last years. According to suppliers, this is because of hard competition in natural stone business, especially in European market.

The monthly wages at the supplier C range between 1,600 and 5,000 Yuan according to the employer. In interviews, though, the workers said that monthly wages were 800 Yuan for auxiliary workers and 1,200 to 2,500 Yuan for skilled production workers. Supplier C uses both a base wage and piece rate system for production work, similar to supplier B1.

Various suppliers pay wages below the minimum wage, taking into account the length of the working week and legal requirements for overtime compensation. A base wage of 800 for a regular working week of seven days or 56 hours, for example, is not in accordance with a local minimum wage of 650 Yuan per month for 44hour week.

### **Research findings – Western Shandong**

All production workers are paid on a piece rate basis. For the first month, a fixed wage is set at 600 Yuan, for example. After that, production workers are paid by the metre of stone produced.

According to the management at B3, the average wage at the factory would be about 2,000 Yuan per month, similar to that at other factories in the area. Wages have increased substantially lasting recent years. At first people would come to



work for 800 Yuan per month, whilst now the minimum has gone up to 1,500 Yuan. The management of B3S1 explains that workers earn 1,500–2,000 Yuan for polishing, and that this is the highest paid work. At B3S2, the management states that the lowest paid workers would earn 1,500 Yuan per month and that more skilled workers would earn up to 2,500 Yuan per month. At B3S3, the wages would be between 1,000 and 2,000 Yuan per month, depending on the job.

Workers from the different factories mention slightly lower figures. Some workers state that they earn up to 900 Yuan per month for packing, two workers moving stones earn 1,300 Yuan per month, two cutting workers earn 1,500 Yuan per month, and one polishing worker earns 2,000 Yuan per month. These wages are for normal working schedules. At some times of the year the factories are closed because of rain or when workers are busy farming. Workers also earn less in the winter. The workers assert that they normally get their wages on time and if there is a delay of payment, it is not longer than one week. However, they do not receive clear wage slips.

The management of B3 explains that workers earn about 30 percent less than at factories producing clothing and furniture in the cities in Shandong. This is because the blue limestone district is more remote, meaning that it also has a lower legal minimum wage. Most of the workers would also accept a lower wage to be able remain at their farms.

### **Research findings – Eastern Shandong**

The four suppliers tell us that the monthly wages range from 1,300 up to 3,000 Yuan per month. For temporary piece rate workers suppliers say the average wage is said to be 1,500–1,600 Yuan per month. The average daily piece rate is said to be around 60–100 Yuan per day.

The four manual hammering workers at Supplier D told SwedWatch's researcher that they normally earn more than 1000 Yuan per month. This is confirmed by the interviews conducted in the absence of management. The five workers at Supplier D said that they earned between 900 and 2,000 Yuan per month and that workers can choose to receive their pay when they leave for home three times a year or on a monthly basis.<sup>55</sup> Suppliers G and E both tend to pay wages when the workers go home for farming, not monthly.

For suppliers F and G the workers say that they earn between 1,700 and 2,000 Yuan per month.<sup>56</sup> Some manual hammering workers at Supplier G's subcontractor said they could normally earn 50 Yuan per day. In order to receive 1,500 Yuan they would need to work 30 days a month.

The fixed machine operators at Supplier E earned between 800 and 1,200 Yuan

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<sup>55</sup> Interviews with five workers at Supplier D during November – December 2007.

<sup>56</sup> Interviews with 10 workers at Supplier G during November – December 2007. Interviews with 8 workers at Supplier F during November – December 2007.

per month, according to one manager at Supplier E. Paying wages below the legal minimum level does not seem to be an matter of concern in the stone industry in Eastern Shandong. Most suppliers tell SwedWatch that they have been forced to raise piece rates every season in recent last years in order to attract workers. The work is regarded as arduous and does not appeal to young people.

According to interviews with workers none of the suppliers offers wage slips with visible calculations of the wages.

The findings can be summarised as follows:

- According to Chinese law employees have the right to overtime compensation at a premium rate. This is not enforced at any of the suppliers in Shandong. If they had or were to obtain approval from the labour bureau, the exceptions and terms for wages, working hours and overtime should clearly be stated in the employment contract.
- All seven days of the week are treated as weekdays, something that breaches legislation.
- Wages are not always paid on a monthly basis.
- Wage slips showing how wages are calculated are not provided.

## Insurances

### **Normative framework**

According to Chinese labour law all employees should be covered by social insurances.<sup>57</sup> Labourers shall, in accordance with the law, enjoy social insurance benefits during retirement, illness or injury, disability caused by work-related injuries or occupational disease, unemployment, and child bearing. In some cases, payments may be below the minimum wage. If a worker has an illness or injury not related to work, for example, the factory should pay compensation of at least 80% of the local minimum wage during this time.<sup>58</sup>

In general, it is has been quite complicated for migrants to have their insurance entitlements transferred to their home county when they return after they have stopped working, as there is no uniform social insurance system throughout China. However, it might also be used as an argument by employers to avoid paying. Lately efforts have been made to make it easier for migrant workers to take advantage of these insurances. Employers are required by law to provide all employees with insurance against work-related accidents, regardless of his or her household (hukou) registration. For the other four types of insurances, regional regulations vary. For example, Xiamen has been pushing the case for migrant

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<sup>57</sup> The Labour Act, Chapter IX, section 73, Dated 5 July 1994, <http://www.ilo.org/dyn/natlex/docs/WEBTEXT/37357/64926/E94CHNo1.htm#Chap9>, downloaded 2007-11-27.

<sup>58</sup> Advice on the Implementation of Labor Law of China (1995), Article 59.

workers to be covered by pension and unemployment insurances, and since 2005 they have made it possible for migrants to receive these welfares even after they leave Xiamen.<sup>59</sup>

### **Research findings – Fujian**

In the past, insurance was only required in urban areas, such as the city of Xiamen. Some factories have moved out of Xiamen when insurance became mandatory there. From 2006 onwards the government has extended these regulations to rural areas. In Xiamen, insurance premiums are higher at approximately 20% of wages. Part of this may be deducted from the wage. In the counties around Xiamen, the premium is just 5%.

At Supplier A, management claimed that all permanent workers were covered by all insurances according to the law, including medical treatment and up to sixty months of continued wage payments in case of working accidents. Workers interviewed confirmed that insurance was provided for all workers that had been in the factory for more than three months, including subcontracted workers, though they were not sure which types of insurance. In any case, the company pays for the medical expenses for work-related injuries and continues to pay base wages in case a worker is hospitalised. Approximately 100 Yuan per month is deducted from their wage for social insurance, according to information obtained during interviews.

At factory B1, the management stated that all workers are insured against accidents. This was also confirmed in interviews with workers. A copy of an insurance chart was provided. Production workers get paid the minimum wage during sick leave, which is between 500 and 600 Yuan per month. Workers say that they are not entitled to all social insurances yet. They state that they have insurance against work-related accidents, but not for unemployment or retirement. Insurance is provided for fixed workers, who have worked for two to three years at the factory.

At factory B2, workers say they receive no insurance of any kind. They are not paid for the time they cannot work due to work injuries or sick leave and there is usually no compensation if someone becomes disabled due to a work-related accident. On one occasion, a worker had received a once-off payment after suffering a serious injury. However, the payment had been less than a monthly minimum wage despite the fact that the worker could not return to work for quite a long period of time. Thus, the compensation was insufficient.

According to the management of Supplier C the employees are covered by pension, unemployment and accident insurances. However, in interviews conducted with workers, the employees say that they are only covered by accident insurance. Supplier C claims that it also needs to pay child bearing insurances for both

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<sup>59</sup> Xiamen Net, 7 October 2007, <http://www.smexm.gov.cn/2005-10/2005107810217449.htm>, downloaded on 2 January 2008.

men and women in this area. They claim to provide these insurances from the first month of employment. In an interview conducted during our visit a worker said that he was insured for work injuries but that he was not sure about the rest.

### **Research findings – Western Shandong**

Apparently, none of the companies in the area provide any kind of social insurance. All workers interviewed stated they did not have a social insurance number and that they did not know of any company that provided insurance. Thus, when workers take sick leave, for example, they do not receive any income because they are not covered by medical insurance. Only in the case of work-related injuries may there be informal arrangements in place. The management of B3S1 explains that injured workers continue to be paid the minimum wage and at B3S2 they would receive half of the average wage. Supplier B later stated that most companies in the area do provide social insurances and that according to China's medical reform, the government will soon cover the health insurance for urban workers.

### **Research findings – Eastern Shandong**

Supplier F does not sign any individual employment contracts, but states that it does provide all fixed workers (and manual hammering workers) with accident insurance at the fully owned factory. This was not confirmed by interviews with the workers. Later Supplier F sent official documents showing the insurances. They show that the company is covering accidents and medical expenses. The insurance does not seem to cover occupational diseases, though. Supplier F claims to provide the other required state insurances as well for machine operators and staff, including pension, unemployment and social insurances. The employees at the joint venture did not have any contracts, however, and they were not covered by any insurance.

In interviews with workers at all four suppliers in Shandong, 24 out of 28 workers stated that they were not covered by any insurance.

Supplier D states it provides injury and retirement insurances for the 200 employees at its fully owned factory, which we visited. However, interviews with two workers reveals that they themselves were not in fact covered by any social insurance at the main factory. When workers are at home for harvesting and seeding they are still covered by the insurances, but this insurance is only based on the minimum wage in the municipality, according to the management.

Supplier D claims that they have the same policy for the subcontractors they use (one North of Xiamen in Fujian province in Western Shandong), but SwedWatch did not get the chance to verify this. Nevertheless, we were able to visit one local subcontractor, at which workers were not given employment contracts and they were only covered accident insurance. Supplier D stated that it only bought very small quantities from this subcontractor in case of large, urgent orders. This was verified by the factory supervisor at the subcontractor.

Suppliers E, F and G do not give any employment contracts or insurances to their piece rate seasonal employees. At supplier E the office staff have labour contracts and are covered by pension and accident insurance, but lack unemployment and other social insurances as required by the law. At Supplier G the workers do not have employment contracts and are not covered by any insurance. Supplier G says this is because the workers are used to just resigning whenever they like. In fact they say that if workers would be willing to sign contracts, they would welcome this since they want a more stable workforce.

Since many workers in Eastern Shandong only work 200 days per year there might be difficulties in offering insurances to all of them, but according to labour rights experts in Hong Kong the employees should at least be covered by a written employment contract and accident insurance.<sup>60</sup>

On the basis of these findings, the following can be concluded:

- Suppliers E and G do not provide accident insurance for all their employees as prescribed by Chinese law.
- Supplier F does not cover all its employees with correct injury insurances. (As a reaction after seeing the draft report the management state that they agree with our recommendation).
- According to interviews with workers it seems as though none of the suppliers provide any kind of insurance except at a few quarries that provide accident insurance. Evidently the insurances need to be improved as well as the information about the insurances given.

## Trade union rights

### **Normative framework**

The right to freedom of association and collective bargaining are part of both the ILO's core conventions and the Universal Declaration of Human Rights. Trade unions have been proven to be an effective means for workers to improve working conditions, and at the same time providing them with an audible voice to participate meaningfully in society and giving protection from the negative effects of economic change, in many parts of the world.

China has not ratified either of the two core labour standards of the right to freedom of association (ILO Convention 87) and the right to collective bargaining (ILO Convention 98). Under national law, China violates these conventions and declarations as it recognises only one trade union– the All-China Federation of Trade Unions (ACFTU). China allows its workers to join a trade union as long as the trade union is part of, or becomes part of, the ACFTU. Recent legislation and new policies from the Chinese government stress the importance of employees to

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60 Staphany Wong, IHLO, has collected information from Labour Action China and China Labour Bullentin in November – December 2007.

organise and bargain collectively in their workplaces. Nevertheless, much collective consultation remains formulaic and lacks the genuine tripartite nature of bargaining between equals.<sup>61</sup>

The opinions about the real benefits of the ACFTU unions and bargaining agreements differ a lot within international and Hong Kong based trade union activists. The critics stress that the chance for local unions to achieve real democratic representation without getting corrupted by local ACFTU leaders is extremely weak since these leaders often have close ties to local business. Others argue that there is indeed a chance for local unions to democratise the ACFTU at grassroots level by introducing elections for union representatives among workers and bargaining collectively.<sup>62</sup>

However it is widely recognised that the ACFTU has historically destroyed the very meaning of collective bargaining, implying that the ACFTU's often strong ties to local government and local business have in practice meant that stability and "harmony" has been stressed in favour of getting down to real negotiating between two equal parties: employees and employers. The ACFTU's previous role as a charity and welfare organisation has led to a widespread belief that trade unions are not needed by workers. Workers are simply not familiar with the role of "real" trade unions.

### **Research findings – Fujian**

In Fujian most of the suppliers said there were trade unions, which normally meant that all employees automatically became members of the local trade union branch of ACFTU. Supplier A stated that the factory was required to have a trade union by the local government, thus violating China's own Trade Union Law (article 2), which stipulates that a trade union is "a people's organization voluntarily formed by the working class".<sup>63</sup> The union leaders were then appointed by the government and the company. About half of the employees are union members. The management says that the union is active in organizing activities, such as hiking and picnics; for workers in difficulties, they provide donations. He also mentioned that the trade union had in the last two years been involved in giving comments on holidays. Comments from the trade union were also invited when the company management was determining wages.

At factory B1, the production leader is also the union representative. The trade union mostly deals with problems among workers themselves.

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61 China Labour Bulletin, research Report no. 4, "Breaking the Impasse", [www.clb.org.hk](http://www.clb.org.hk), November 2007: p. 2, refers both to The Trade Union Law (1992), the Labour Law (1994) and the new Labour Contract Law (2008).

62 China Labour Bulletin, research Report no. 4, "Breaking the Impasse", [www.clb.org.hk](http://www.clb.org.hk), November 2007: p 2.

63 Trade Unions Act of 1992, [http://www.ilo.org/dyn/natlex/natlex\\_browse.details?p\\_lang=en&p\\_country=CHN&p\\_classification=02&p\\_origin=COUNTRY&p\\_sortby=SORTBY\\_COUNTRY](http://www.ilo.org/dyn/natlex/natlex_browse.details?p_lang=en&p_country=CHN&p_classification=02&p_origin=COUNTRY&p_sortby=SORTBY_COUNTRY)



Supplier C says that it is required by law to have a union at the factory and that all workers automatically become members, thus again violating article 2 of the Trade Union Law. The trade union holds an election for three members. The trade union mostly deals with conflicts between co-workers; *“but as we take care of everything, there is no need for the workers to complain”*, says the assistant to the director. There is no collective bargaining agreement.

### **Research findings – Western Shandong**

None of the suppliers visited in Western Shandong have a trade union. It is uncommon for private companies in this region to have trade unions.

### **Research findings – Eastern Shandong**

None of the suppliers that SwedWatch visited in Eastern Shandong had a trade union at factory level. Many of the suppliers said that in this region, the government does not request automatic unionisation of workers (as in South provinces). Supplier G said that all staff employees automatically received a membership at the local ACFTU branch, but apparently their role is just artificial: *“All trade union officials are already set. We do nothing”*, the manager for Supplier G tells SwedWatch.

There was no awareness among any of the suppliers that a trade union could be beneficial to workers in the workplace. According to the general manager of Supplier E, the company has no trade union because their production is not organised like a real factory, instead having more flexible production outdoors.

*“Maybe the workers have other forms of organisations, like village-committees, in their villages”*. He says that if a stone employer does not pay wages in time, for example, the village committee may come and protest. This has not happened to them since they pay on time, according to him.

At Supplier G all staff members receive ACFTU membership. *“All trade union officials are already set. We do nothing”*, says a person from the management. The general manager of Supplier F confirms that his company has no trade union, but he also thinks that it is ridiculous that his company still has to pay a fee to the city’s ACFTU branch.

The findings can be summarised as follows:

- The compulsory requirement for companies to have trade unions or pay trade union dues is not legal.
- The awareness of trade union and collective bargaining rights of the employers and the employees needs to be improved.
- In Shandong it would be useful if workers were informed about Chinese trade union law and eventually local factory unions could be set up with democratic elections for representatives from the employees.



## Environmental issues

### Normative framework

The environmental impacts of the stone industry mainly concern three issues: land use, waste and water usage. The quarry owners license the quarries from the state. From what we understood from the suppliers there is no requirement for restoration after the quarry has been exhausted.

Given the timeframe and resources available for this research, SOMO and Swed-Watch have not been able to look into the normative framework for environmental issues in Chinese stone industry in great depth. However, talking to Swedish environmental inspectors at one of the municipalities in Sweden where there is an active natural stone industry, we can find out some more about the possible environmental consequences.

A Swedish environmental inspector says that if the stone processing plants have settling tanks for the effluent water and let it repose there for at least one week, this does not generally cause any environmental problems.<sup>64</sup> Almost all the water can be recycled again in the factory and some small amounts can be let out through filtering arrangements into the surrounding ground. In Sweden the companies must check the level of nitrogen in the water since they use blasting in the stone quarries and this might result in excessively high levels of nitrogen in the effluent water. Otherwise this effluent from the stone processing plants does not contain anything particularly harmful, at least from granite, according to the environmental inspector. The Swedish radio journalists, however found a case where a lake in Fujian had been contaminated with a large amount of heavy metals particles from a nearby quarry of black basalt, destroying fishing.<sup>65</sup>

This might depend on the type of rock type as some rocks contain more ore meaning that more residues of heavy metals may end up in the effluent water. This is unlikely in the case for granite though, according to the environmental inspector. Swedish granite is in any case unlikely to contain any harmful amount of heavy metal particles. *“Of course you might get a problem if you do not let the water settle and just release it into nearby rivers or lakes, because then the sedimentation will instead take place in the lake or river, and this is of course not very good for the ecology”*, says an environmental inspector at the municipality of Kristianstad in Sweden.<sup>66</sup>

### Research findings – Fujian

All factories used recycled water for gang saws and larger cutting machines. Company C also uses recycled water for smaller handheld machines. The water is collected in the workshop halls through open wastewater canals in the floor, and

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64 Sam Skällberg, environmental inspector, Kristianstads kommun, 2007-12-14.

65 Kaliber, 11 of June 2006, "Så gick det sen", <http://www.sr.se/cgi-bin/P1/program/artikel.asp?ProgramID=1316&Artikel=873639>

66 Sam Skällberg, environmental inspector, Kristianstads kommun, 2007-12-14.



Waste water from a stone processing plant flows into the fields. The supplier have now indicated that this will be urgently dealt with. Photo: Staphany Wong/IHLO.

the dust and dirt in the water sinks to the bottom in tailings ponds. Sometimes the water is treated with chemicals. The water is then stored in tanks. From time to time, the water is replaced, but it was not clear whether the wastewater is further treated or whether it is simply released into the sewage. None of the villagers interviewed by local researchers complained about any environmental destruction caused by the quarrying or stone manufacturing.

At the factories, the efficiency of material usage depends on the quality and dimensions of the raw blocks, but it is generally very high and carefully managed, due to the relatively high cost of the raw material. The managements at factories A and B2 cited figures of 80% and 95% respectively. Broken pieces of stone may be picked up for alternative usage (e.g. filling material for roads). Solid waste and sludge from the tailings ponds is dumped elsewhere, in a nearby dumping area in the case of company A or in another province as in the case of company C.

### **Research findings – Western Shandong**

At all suppliers, broken stones and other leftovers are crushed and subsequently used for cement production. Thus, almost all stone can be used. All factories have wastewater pools and the tailings from the wastewater ponds are removed from time to time. The mud may be used to fill holes in the road, for example, but sometimes it is also dumped at the edges of fields or in quarries. Most companies

do not recycle wastewater. The water, which still contains limestone dust, goes into the sewage or flows into the fields behind the factories.

### **Research findings – Eastern Shandong**

The quarries in Shandong are quite deep. The deepest quarry that we visited was the one used by Supplier F and this had a depth of around 60 meter. The open quarries have serious impacts on the surrounding ecology. Approximately one quarter of the raw material is utilised, according to Supplier E, the rest is waste. The suppliers explain that this waste rock can be used for irrigation, building purposes and for laying roads, so not much is actually dumped. However, this in itself presents a serious health hazard, since quartz dust is then dispersed, onto road sides and around building sites, for example.<sup>67</sup>

Water is essential for the polishing and sawing operations. All suppliers with machine operations (except Supplier G) had systems in place for recycling the water used in the production. This was also something that all suppliers said that the Environmental Protection Bureau followed up each year by taking samples of the water, for example. Recycling systems at all suppliers were pretty similar: three or four basins in which sediment was separated by allowing it to slowly sink to the bottom, while the water at the top was drained into the adjacent basin. Once the wastewater had reached the final basin it was ready to be used in production again. All of the suppliers claimed that the water which was eventually being released into the drains was not causing any environmental problems for the surroundings. Since these stone manufacturers do not add any artificial chemicals or solvents to the water, it is likely that this wastewater is not causing that much pollution. However, this depends of course on the rock type and Swed-Watch has not been able to investigate this in more detail. Solid waste is collected and taken to dumping areas every so often. The companies said that they only occasionally needed use fresh water due to evaporation.

In addition to interviews with workers, a number of people living in villagers close to production sites where also interviewed. None of the villagers expressed any concerns about pollution from the stone industry and they had not noticed that it was having any impact on farming.

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<sup>67</sup> Per Franck, working environment engineer, specialised in stone industry, 2007-11-26.

# Sustainability issues in stone quarrying

## **Normative framework**

The working conditions in stone quarries are regulated by the same national laws as mentioned above (concerning working hours, wages, insurances, etcetera). Suppliers also explained that the authorities have increasingly been trying to regulate the operations in the quarries in the last few years, because of the many accidents that have occurred in the past. In the province of Fujian quarry blasting is now only permitted if companies have obtained special authorization to do so. The suppliers claimed that this had helped to improve the security of rock blasting.

## **Research findings – Fujian**

Due to the practical difficulties of accessing the quarries, research data for Fujian is relatively limited. It was only possible to visit the nearby quarry of factory B2. Stone is extracted by first mechanically cutting huge slabs from the rock face and then manually hammering pins into the rock to split them into blocks. The blocks are lifted out of the quarry using cranes and transported to storage areas near the factory on small lorries. The quarry produces 200 to 250 m<sup>3</sup> per day. Quarry operations are suspended during the rainy season.

There were around twenty-five people working in the quarry at the time of the visit. The management of B2 explained that they are employed via a subcontractor and that earn around 100 Yuan per day. The workers wear hats but no helmets. The management comments that most workers feel too hot to wear helmets while working in the quarry although the company has asked workers to wear helmets many times. The quarry is currently between 50 and 80 meters deep, with a metal railing around the upper edge. Even within the quarry itself there are some steep drops, yet these are not protected by railings. According to the management, a health and safety inspection takes place every week. They add that there have been no major accidents here. The safety of the quarry would be more or less the same as that of other quarries in the area. The management also says that this quarry is one of the few safety certified quarries by the government.

The quarry workers live nearby and there is a block of flats just outside the quarry, where blocks are stored. Some of these workers probably live here with their families.

The overburden, which is the layer of stone on top of the granite that cannot be used, is dumped or used to create a straight wall at the side of the quarry. The company does not bear any responsibility for cleaning up afterwards, this instead being up to the government. However, exhausted quarries are just left as they are, and the government does nothing with them.

Supplier C mainly uses a quarry about two to three hours drive away from their

factory. The management explained that, according to the State Administration of Work Safety (SAWS), this quarry has the highest safety standards in the whole of the Fujian province. On one occasion Supplier C arranged a tour for other quarry owners to share this best practice example.

### **Research findings – Western Shandong**

There are over one hundred quarries in the hills in the area. The stone industry really started to develop in this area started in 1990. Until some years ago most quarries used explosives, which frequently caused fatal accidents. However, this method has been abandoned and all quarries now use gang saws and drills to extract stone, for which companies require a government license that can be obtained from their local mining bureau. The exploitation of a quarry such as this one costs 1-2 million Yuan for a period of ten years, regardless of how much stone is extracted.

Two quarries were visited in the province, including one that is a joint-venture between B3S2 and other companies. The surface area of this quarry measures 6,000–7,000 m<sup>2</sup> and each company extracts from a different area within the quarry. Approximately 50–60 m<sup>3</sup> is extracted per day. The quarry operates seven days per week, except on rainy days, and there are around 50 people working in the quarry. Production methods and working conditions at both quarries were similar.

The management explains that since the switch from blasting to sawing and drilling ten years ago, there have been no fatal accidents. The rock is cut out on the long sides using gang saws that are pulled over the surface of the quarry. The short ends and underside of the slab are cleaved using drills and rods that are driven into the holes. To drill vertically, workers sometimes put a foot on the drill to apply extra pressure. To horizontally drill the underside of the blocks, one worker holds the drill while another one, standing on the block, pulls the drill against the block with help of a belt around his waist.

The working areas in the quarries look rather disorganised. In one quarry there are jerrycans containing fuel for the drills lying around and some small children are playing in the other quarry. The workers do not use any protective gears, such as boots, helmets, safety glasses, or gloves. Several workers at both quarries tell that no protective equipment is provided. Whilst some also say that there have been no serious accidents in the past few years, others tell of minor accidents. Some quarry workers say they do not have any insurance, others are not sure. The workers do not have working contracts and are paid on a piece rate basis.

According to the management, workers earn around 3,000 Yuan per month due to the heavy nature of the work, though some state that they earn just 1,800–2,000 Yuan per month. A drill worker explains that he spends between eight and ten hours per day at the quarry. The wage he receives depends on the quality of the stone, over which he has no control. He does not think that he needs protective equipment. Earplugs would be inconvenient to wear, for example, even





At the time of our visit one worker is drilling a large granite block causing a dust cloud to rise up into the air. He is using no protective equipment, neither a face mask nor ear plugs.



though he has noticed that his hearing has deteriorated as a result of the drilling.

Low quality stone is broken into pieces on the spot for used to make cement. A few people breaking up the stones using a hammer say that they have been working in the quarry for a few months. They work eight hours per day and earn between 1,000 and 2,000 Yuan per month, depending on the number of days they work. Sometimes people are get injured, when the stones that are thrown onto a lorry roll off.

### **Research findings – Eastern Shandong**

Most suppliers stressed that the employees in the quarries were covered by accident insurance, since their work is considered much more risky than hand hammering.

Among suppliers D–G it was only Supplier G who admitted that there had been accidents in the quarry that they have been using in recent years. During 2006 two persons were killed by stones falling from the upper rim of the quarry. This was also later related by workers interviewed by local researchers.

At of the many quarries visited the drilling workers did not wear hearing protection and most of the quarry workers tended not to use face masks.

- At the quarry used by Supplier D the employees work seven days a week, eight hours a day. The quarry is licensed by another person, but Supplier D buys almost all their stone from here. The employees earn 100 Yuan per day. They spend around eight months working in the quarry and do farming for the rest of the year.
- The two workers we spoke to at the quarry said that they did not like their work, especially not in the summer, since it is so hot. This also means they cannot work as much, implying that they earn less during the hot months. And during snow or heavy rain they cannot work at all meaning that they do not get paid at all. They say that there have been no accidents at this quarry thus far, and that they are not aware of any negative effects on their health.
- According to the management, the quarry workers at all suppliers (D–G) were covered by work-related accident insurance and had employment contracts, even though only a few workers at suppliers D-G confirmed that this was the case.
- Supplier E and his local partner buy approximately 80 percent of their stone from one quarry, and they place orders on a regular basis.
- Supplier F does not own any of the quarries that it uses. However, it is a main buyer at one quarry.
- This quarry was quite deep (approximately 60 meters) and trucks were going up and down a steep road to load new granite blocks. A watchman stood at one sharp turn and the supplier was evidently nervous when s walked down the slope. They told us that the granite blocks might fall off which could cause



A watchman looking out for falling stones at the quarry which delivers to Supplier F.

a serious accident. Evidently this had happened before because there was some granite lying just by the turn.

- At Supplier F three quarry workers asked for safety nets to be installed at their workplace, to prevent stones falling onto their heads.
- From what we see the quarry workers at Supplier F seem to use helmets and some even use protective glasses. We see no face masks, but according to Supplier F these are provided for drilling work. He explains that the face masks used are made up plastic and have a filter attached to them. He does not think that earplugs are necessary since “the sound is not so high”. “It is normal to get back pain or other kinds of pain in the body during this type of work”, according to the production manager.
- The employees work eight to ten hours a day, depending on sunlight, seven days a week. They do not work if the weather is bad.
- Supplier G either buys directly from a particular quarry near their factory or from the subcontractors who get the stone from quarries in their vicinity. For large orders Supplier G will deal with the quarry order and will then send the material to the subcontractor.
- Supplier G plans to start with annual medical check-ups for the quarry workers.

# Priorities of workers

Workers at most factories and some of the quarries were also asked about their own priorities. Their opinion is of course very important, as they are the main intended beneficiaries of sustainability initiatives in the natural stone industry. Their opinions are described in the list below.

- Higher wages and higher piece rates are most often cited as a key issue.
- At factory B, most workers are not very interested in the audits since these have not resulted in higher wages, for example. Some workers would not welcome the changes as some machines have been set to a lower speed for safety reasons, and as a consequence the workers on piece rate earn less.
- In Fujian, some workers stress that insurance against work-related accidents is a must because of the high risk of accidents. They are not so worried about other types of insurance, partly because it is difficult for migrants to transfer social insurance entitlements to their home county.
- Workers at suppliers E and F want the companies to provide them with the tools they need for their work, free of charge.
- Workers from various companies want a safer and more comfortable workplace. Some complain about the noise, dust and fog.
- Some workers at suppliers E and G would like to have proper work uniforms.
- Workers from various companies want to receive personal protective equipment free of charge. One worker of B3 specifically mentions a proper face mask. Three workers of G specifically mention gloves.
- Workers at company G said they want to learn more about health and safety issues.
- Quarry workers at company F would like the company to install a safety net to protect them from falling stones.
- Various workers find the workload too intense.
- A few workers in Western Shandong state that they would like warm meals, especially during the winter.

## Quotes from workers in Fujian:

*"The working conditions at the factory are very uncomfortable. We all work in the open air. Cutting and polishing operations cause too much dust and fog and the workplace is very noisy. We hope that the factory will pay more attention to our health and safety".*

*"We are subcontracted workers involved in cutting operations. We feel that the production workload is too heavy and we are very tired after long days of work."*

- Workers of companies D and G complained about the quality of the food and the fact that they needed to pay for meals at the factory.
- Various workers at G also want better living accommodation and a television to be installed in their dormitory.

Some workers also state that they do not want to use protective equipment, such as helmets, face masks, gloves, and earplugs, because they find these inconvenient, especially on hot summer days.

# Operational issues

## Inquiries and demands from buyers

As described in the general supplier profiles, most companies are visited by customers wishing to perform quality inspections. Customer demands for sustainability standards are less common. Whilst some companies have already had inquiries about sustainability issues, even from non-Swedish and non-Dutch buyers, many have not.

Supplier A became aware of a growing interest for environmental issues among its customers. One of the managers thinks it is good that buyers enquire about amounts of dust generated during production. Company B has been faced with concrete demands on labour standards from a large European buyer and has started being audited at some sites using the SA8000 standard for working conditions, according to central management. A growing demand in Europe for higher labour standards abroad is welcomed. However, Europe should preferably develop one common standard, which should then have to be adopted by all suppliers. According to the central management of B, many European buyers have been helpful to improve labour and environmental conditions. The support consisted for example of sharing knowledge, providing the right protective gears, and discussing safety measures.

The management of B3 in Western Shandong had not yet received any previous inquiries. Those who buy from B3S1 are sometimes concerned about labour conditions. When they inspect the quality of the products, they also ask about wages and working hours. However, they do not ask for documentation.

Supplier D noticed that about four years ago buyers started to care about sustainability issues. First it was focused on child labour, then work safety and food security, and recently on the environment. The Scandinavian buyers bring up all these issues, unlike German buyers whose sole concern is child labour. The German buyers required the factory to sign a contract stating that no children were employed there.

One German buyer had a discussion about safety throughout the supply chain with Supplier E some time ago. Following this discussion, the company implemented some improvements concerning the fastening of granite stones during the transport. Although some customers enquire about labour conditions and protective clothing, they do not have any specific demands concerning improvements. Supplier F has received demands from its Swedish buyer, but is not aware of any further improvements that are currently required. The buyer has visited

the main factory and the company's joint venture to check the use of protective equipment, such as protective glasses and earplugs, and invited Supplier F to visit the production facilities in Sweden. The management teams of suppliers E and F both state that they are open to requests from buyers concerning the improvement of labour conditions.

Last year some of Supplier G's European customers started to ask questions about environmental issues and dust levels and they check these when they visit the company. As a result, the company now chooses its partner factories more carefully. At the better factories helmets, face masks and earplugs are now being used. Supplier G now plans to offer more training, by issuing leaflets and providing regular lectures on the importance of health and safety.

## Government regulation

Various suppliers emphasise the fact that demands from buyers and Chinese government regulations both fill important function in order to improve production conditions. In theory, the labour and environmental standards required by Chinese law are sufficient to meet all sustainability criteria from foreign buyers, except freedom of association and perhaps living wages. In practice, however, implementation of existing government regulation is often not verified or enforced. According to company B, government may play a much more important role to enforce better production conditions than individual companies through European buyers. The stone industry is currently not a priority of the Chinese government, unlike the electricity and steel industries, for example.

Below, a brief overview is provided of existing government inspections mentioned by suppliers. SwedWatch and SOMO have asked several local authorities for more information concerning the monitoring of labour and environmental standards, but have as yet not received any replies. However, government inspections are impeded by widespread corruption in many areas and the quality of governmental monitoring varies significantly between different regions.<sup>68</sup>

According to the management of Supplier A, the Department of the Environment performs annual checks wastewater disposal. The State Administration of Work Safety (SAWS) only appears if there has been an accident at the workplace, and then tend only to check noise levels, water disposal, and water recycling.

Supplier C claims that the State Administration of Work Safety (SAWS) inspects the safety of the machines every year and issues safety labels, though these could not be produced upon our request to see during the visit. From time to time, the State Administration of Work Safety (SAWS) would also perform surprise visits to inspect machine safety. The company felt that the local government in its area is stricter on the natural stone industry than the local government in areas near

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68 Several sources confirm this; research done by IHLO among Hong Kong groups, seminar on Sustainability in Chinese supply chain by consultant Natlikan Sustainability in Stockholm 2007-11-29, etc.



Xiamen, for example. Reasons given for this is that the industry is much less important in the area of supplier C, thus meaning that the risks of these business and workplaces being harmed are much less significant.

The management of B3S1, in Western Shandong, explains that the government carries out inspections every four to six weeks to check whether the machines are being operated correctly. No certificates are provided, however. The local labour department and the mining bureau are responsible for the inspections. The mining bureau is a new department, which also inspects the quarries. No problems have been identified during inspections at B3S1. Sometimes suggestions have been made to workers that they should not work too late, for example.

All of the suppliers in the Eastern Shandong province said that from time to time, they were inspected by relevant governmental departments, apparently the Workers Safety and Welfare Administration for workers safety issues and the Environmental Protection Bureau for water treatment and noise level. The suppliers generally stated that they only found out whether they had passed the controls or not, and that this notification was not accompanied by any documentation. Supplier D says that they have to pay a fee for the governmental inspections, which none of the other suppliers needed to do, suggesting corruption.

## Price increases and fair competition

Several companies indicated that improvements will result in higher prices. This is due to substantial long-term investments required to improve the workshops themselves, and to upgrade machinery and equipment to improve health, safety, and environmental conditions, for example. Reducing environmental impacts and related health hazards, by enhancing wastewater treatment and advanced dust prevention would require the largest one-off investments. Advanced dust prevention and ventilation requires a change from a semi-open to a closed factory, for instance.

Another reason for price increases would be the rise of recurrent costs, such as wages. As company B explains: "The cost of labour in production is 5-10%. So if improving labour standards raise labour costs by 5-10%, then total production costs will be increase by up to 1%." Thanks to audits conducted in line with SA8000, the machines at factory B1 also move at lower speed, resulting in more stable operations.

The managements of most suppliers were of the opinion that buyers should accept higher prices if sustainability demands increase costs. Supplier F explained that its Swedish buyer already increased payments by 2-3 percent for this reason.

On the other hand, some suppliers also acknowledged that there is a business case for reducing workplace injuries and providing adequate insurance for employee compensation in case of accidents. Furthermore, it was generally agreed that some improvements, such as enhancing health and safety training

and organising health and safety committees, did not require substantial investments.

Some suppliers emphasised the fact that investments and improvements are for the entire future production, not just for specific orders. Therefore compliance with buyer demands would be more difficult if these are not major buyers who place orders regularly. Some companies also stress the need for fair competition to prevent that other, cheaper, suppliers would undermine efforts for more sustainable production. They advocate one uniform sustainability standard that is applied by all buyers.

## Supply chain responsibility

Most supplier initiatives do not (as yet) extend to their subcontractors or their own suppliers. Some managers find it difficult to discuss these issues with their suppliers or face resistance. This also applies to companies that are the largest customers of their suppliers. Apparently, they have yet not used their buying power to push for improvements throughout the supply chain. However, supplier G also shows the production facilities of its subcontractors to customers when they come to inspect working conditions. The management of supplier G explains: 'We also need to go to our subcontractors to promote the use of protective equipment'.

## Certification schemes

Some companies have ISO 9001 certification for quality management. There is no comparable single standard for sustainability or corporate responsibility management, however. Two existing certification schemes were mentioned by natural stone companies.

Supplier A plans to obtain certification for the environmental management system ISO14000 within three years. In order to achieve this, some substantial investments will be required, including ventilation and other types of dust prevention.

In 2003, supplier B started being audited by SGS (Systems & Services Certification) against the SA8000 standard, an international certification standard that encourages organisations to develop, maintain and apply socially acceptable practices at the workplace. At one factory, some corrective actions have already been taken. Improvements include creating a more orderly workplace, providing more training, and installing first aid kits and fire extinguishers. Thus far, benefits for workers have been quite limited though. The company aims to achieve certification of this factory within the next couple of years. The SA8000 norms have not yet been rolled out across the whole company wide, only at B1, but Supplier B, has planned to have three to five more factories audited in the next two years and to have the norms communicated to all its partners around China in the next five years.

## Manager comments on the draft Dutch Code of Conduct

Various managers from company B commented on the draft of the Dutch Code of Conduct (see the chapter on background information). A brief review is given below.

- On the whole, the code is quite clear.
- The norms on laws and licenses are not that important, since these are generally abided by and the government also carries out regular checks.
- Child labour is not relevant since children are unable to work in this industry because of the weight of the stones,
- Workers are paid on a piece rate basis. SA 8000 calls for wages to be fixed, but this is a system that cannot easily be changed as this method of paying employees is extremely common in China.
- If the norms on wages were followed, prices within the industry would rise.
- Wage levels are not really a matter for concern, though it is not certain that adequate records are being kept.
- The purpose of freedom of association and collective bargaining is not clear; it is not workable in China.
- Basic standards of health and safety and protective equipment are acceptable, though more specific requirements, such as those concerning dust levels, are not.
- Insurance is the most problematic labour issue, whilst health and safety protection is not as difficult to implement.
- Environmental issues as well as health and safety are the most difficult issues.
- Environmental management is feasible at a very basic level, though not good enough in practice.

## Other operational issues

Compliance with labour norms is easier to assess if reliable records are kept. At many companies, records of realised production levels for each worker are publicly available. These are used to calculate the wage payments and can usually be checked by the workers. Some companies also use a clocking card system to register working hours. Other companies only register the days on which employees have been to work. However, records of accidents, injuries, and lost working days are often not kept.

It appears that there is no formal complaints mechanism at any of the investigated companies that enables them to raise concerns about working conditions. Occasionally workers discuss problems directly with the employer. The role of trade unions, where they exist, is often limited as regards solving problems between workers.

Finally, it was discovered that many suppliers prepare for planned visits from researchers, buyers, or auditors. Sometimes protective equipment, such as helmets and face masks, that visitors see being used by the workers in the factory are only for show. In addition, there tend to be fewer workers at the factories and certain operations, such as dry cutting, may even be suspended during visits. It is important to bear this in mind when visiting supplier or requesting audits. Unannounced visits and confidential, off-site interviews are essential to ensure that findings are reliable.

During our first meeting with Supplier B, the researchers presented a questionnaire they had prepared to give to the workers. The management agreed and asked for a copy. A few days later, researchers found the same questionnaires, having been filled out in advance, piled up in one desks, despite the fact that the researchers had not yet handed out any questionnaires in that factory. Apparently the questionnaires had not been filled in by workers themselves. This provides an example of the efforts that suppliers go to in preparing for visitors. According to the manager of supplier B the reason for filling in the questionnaires' on behalf of the workers was that many employees are illiterate and that the workers might therefore misunderstand the questions given.

# Conclusions and recommendations

## Conclusions

Natural stone is a major industry in China. Production methods vary widely. Some Chinese companies have large, completely mechanised factory halls with the newest equipment and high quality, safety, and environmental standards. At the other end of the spectrum are small, open air workshops with second-hand cutting machines and self-employed individuals producing kerb stones. The supply chain of natural stone products is very complex, often involving subcontracting at different levels and trading agents for exports. Nonetheless, the quality of export products is often closely controlled throughout the supply chain.

The research identified serious problems in the area of health and safety. The most common injuries are cuts and bruises to the hands, as well as crushed fingers, among those moving heavy slabs and stones. In the province of Fujian, there is also a high risk of silicosis. Since silicosis is a lethal disease, work towards its prevention is extremely important.

Workers themselves mostly emphasise that they would like to earn higher wages. Note that production workers are paid on a piece rate basis whereas auxiliary workers, such as guards and packers, usually earn a fixed daily wage. Another priority of workers is adequate insurance against work-related accidents, something that was in place at a few factories, though more common in the quarries.

Regarding other aspects of working conditions, a few companies provide written employment contracts, but others do not. Workers in relatively dangerous cutting operations are often not employed directly, but are subcontracted by section leaders. Most companies operate seven days per week during a large part of the year. Overtime is also a regular feature at many companies and therefore average working weeks could range between 56 and 77 hours. If companies pay a premium rate for overtime, as required by law, this is only applied to evening work and not to Sundays.

In Sweden, four major municipalities have been adding social demands to their procurement processes for stone products since 2006. Dutch municipalities have so far been most concerned about child labour. However, no workers below the age of eighteen have so far been found to be employed by Chinese natural stone quarries or factories. Further, there have been no signs of discrimination in employment or forced labour beyond compulsory overtime.

It can be concluded that some major actions need to be taken for Chinese stone suppliers to achieve compliance with core International Labour Organisation (ILO) conventions and with Chinese labour legislation. Since demands for increasing compliance with such norms throughout the supply chain can be

expected from European municipalities in the near future, there exists a strong business rationale for natural stone suppliers to improve working conditions and document the improvements. Many suppliers seemed aware of the challenges that lie ahead and some had already started to improve working conditions.

### **Lessons from other industries**

Several lessons for improving working conditions in the natural stone industry can be learnt from previous experiences in other industries. In order to ascertain sustainable improvements, collaborative efforts are needed. Regarding health and safety, for example, it is relatively easy to hand out protective equipment and hire social auditors once a year. However, to successfully improve working conditions it is necessary to actively involve both employees and managers, and to promote real understanding of labour legislation and industry-specific health and safety issues.

Retail and consumer goods companies working in the clothing, toy and sportswear industries, for example, have worked hard with the implementation of ethical codes of conducts and sustainability demands in Asia for more than ten years. There is a virtual consensus that experience has shown that social auditing alone is not enough. The mistake has been not to involve the employees in the supply chain and not to connect the ethical requirements to purchasing conditions. In this way, sustainability demands have turned out to be just empty words on a piece of paper on too many occasions. Public bodies trying to include sustainability demands into their procurement practices should not make the same mistakes as have already been made by private companies. They should instead try to opt for the solutions that have been shown to improve working conditions.

In short, this involves asking workers to get involved by providing health and safety training, legal training, and setting up workers complaint systems and health and safety committees. In the long term one should also make collective bargaining possible at workplaces. In this way the workers themselves become involved in monitoring their own working conditions. This will inevitably be more successful than any kind of social auditing. It would be desirable for local civil society organisations, representing the interests of workers, to be involved in a system for implementing and monitoring improvements to enhance legitimacy and credibility. Some potential local organisations that might take such a role were identified during the research in these regions.

Based on these experiences, Chinese suppliers are recommended to involve workers in training programmes in the provinces of Shandong and Fujian, in cooperation with local civil society organisations. This could eventually lead to the setting up of a monitoring system with active participation of workers that enables them to lodge complaints about violations of laws and norms found at their work place.



## Recommendations

**On the basis of the research findings, SwedWatch and SOMO recommend the following:**

### **Recommendations for cooperation between European importers and Chinese suppliers**

- Importers should ensure that they always know exactly where production takes place. When importers visit their suppliers, they should also try to visit subcontractors and quarries.
- Importers and suppliers should ensure that social requirements from municipalities or other end-customers are communicated and understood throughout the supply chain, to all their subcontractors and quarries.
- Importers and suppliers should monitor working conditions throughout the supply chain, which can be integrated with quality control.
- Suppliers should calculate the costs of improvements of the working conditions and discuss with importers what changes of business conditions may be necessary in order to implement the improvements. Such changes could include for example longer lead times, or slightly higher prices. Where possible, buyers should try to establish more direct and stable relations with suppliers. Suppliers should ensure that any extra resources provided by the importers are really benefiting the workers.
- Importers and suppliers should ask relevant Chinese governmental institutions, such as the Environmental Protection Bureau, the local Labour Department, the Workers Safety and Welfare Administration, or the Mining Bureau, to provide them with detailed documentation about the inspections conducted at the workplaces. These inspections need, however, to be double-checked by independent researchers and experts.
- Importers should be aware that announced visits and audits can be anticipated and therefore produce less convincing results. Audits of labour conditions should involve unannounced visits and/or confidential interviews with workers.
- Importers and suppliers should take into account priorities of the workers and involve workers in the implementation and monitoring of improvements.

### **Recommendations to Chinese suppliers for improving working conditions**

#### **Silicosis prevention**

- Suppliers should provide adequate protection masks (with P3 filters) for those workers engaged in activities such as dry polishing, drilling, dry cutting, and flaming with high risk for silicosis. The masks must be provided free of charge and replaced regularly to ensure their effectiveness. It should be ensured that workers actually use the masks too.

- Suppliers should invite silicosis experts and health and safety organisations to provide training on silicosis prevention at the workplace.
- Suppliers should provide annual medical check-ups including chest x-rays.
- Suppliers should carry out risk assessments, including measurement of dust levels, to determine whether existing equipment is suitable and the actions being taken are appropriate. Suppliers also need to detect what is the level of quartz in the granite they use.

### **Health and Safety**

- Suppliers should implement simple measures to improve the working environment, such as safety nets in quarries, carts or pallet jacks for moving heavy loads, and regular cleaning of factories.
- Suppliers should improve safety equipment. They ought to provide adequate protective gears to all employees and inform employees regularly on the importance of using the protective gears.
- Suppliers should provide insurance against work-related accidents for all employees, including temporary workers, and always provide adequate compensation.
- Suppliers should initiate or improve the health and safety trainings by the management or supervisors. Suppliers can also invite health and safety organisations to provide trainings at the workplace. Health and safety initiatives should promote active participation of the workers to improve their working environment, for example by setting up health and safety committees.
- Suppliers need to improve documentation on the health status of their employees, including health records for each worker. Suppliers should give copies of all documents to the workers.
- Suppliers may need to pay special attention to the use of hearing protection in noisy workplaces, in particular concerning the situation of the machine operators.

### **Other working conditions**

- Suppliers should consider increasing wages (this could be achieved if overtime is compensated correctly as suggested above).
- Suppliers should provide the necessary tools for production.
- Suppliers should improve the hygiene and the heating of the dormitories (where these are provided), repair broken windows and provide electric blankets free of charge.
- Suppliers should improve the quality of meals for workers.
- All suppliers should provide employment contracts at least one month after labour relations have been established, in accordance with article 10 of Labour Contract Law that came into effect on 1 January 2008. Employment contracts should clearly specify working days and days of rest, what is considered as

overtime, and how wages are calculated.

- Suppliers should compensate overtime at 150% after eight hours on working days, and at 200% for work on rest days as stipulated by law. In one way or another this should also apply to the many piece rate workers in the industry. (For example, employers could register working hours and production achievements for all workers, calculate a worker's average production per hour for each unit at the end of each month, and then remunerate average production during regular working hours at a normal piece rate, and each worker's production exceeding this amount for the past month at a premium piece rate).
- Suppliers should obtain proper approval from the labour bureau concerning working hours and they should be able to provide those details to their customers.
- Suppliers should keep records of working hours and wages that should be made available to labour inspectors and customers upon request.
- Suppliers should preferably employ all workers in a factory in a direct way and not through a subcontractor. If subcontracted workers are used, these workers should have the same labour conditions as the other employees at the work place.
- Suppliers could invite local organisations in order to teach employees about the content of the labour law. The purpose of the lessons is to facilitate the establishment of workers' committees or local trade union branches, which can engage in collective bargaining with the management.

### **Environmental concerns**

- Suppliers in Western Shandong should invest in water recycling systems and stop effluent water being allowed to flow into surrounding fields.
- For those suppliers that have recycling systems, buyers should check that the systems are also being maintained correctly.

### **Recommendations to European municipalities:**

- Municipalities need to realise that the social requirements cannot be implemented immediately. Instead, the municipalities need to make sure that tenderers in procurement of natural stone products are providing honest answers and documentation which aim at the implementation of social demands. Municipalities should also request tenderers to show that they spread the knowledge of the social demands all the way down to the employees in the supply chain and prioritise workers' involvement rather than "tick-the-box compliance".
- Municipalities should make sure that demands about labour and environmental conditions are included in all public procurement processes. The social demands should, as a minimum, always include the ILO core conventions. The demands should also stipulate that suppliers must follow local labour

laws. The municipalities included in the contract follow-up should adjust their social demands in line with the priorities identified in this study.

- Municipalities should consult and cooperate with civil society initiatives at the national level, such as the Dutch working group, SwedWatch and FinnWatch. Municipalities, as end-customers, should ensure that implementation of these social requirements is an important factor when selecting suppliers; even if the prices of these tenderers are slightly higher.
- In the absence of a genuine trade union in China, the municipalities should support and co-operate with independent labour groups based on the mainland and in Hong Kong to monitor the social demands in order to support sustainable improvements for the Chinese employees.
- Swedish municipalities should follow-up this study within one year to see to what extent the importers and suppliers have implemented improvements.

**Recommendations to European civil society organisations:**

- European civil society organisations should cooperate with Chinese and Hong Kong-based organisations through pilot studies for workers' training programmes at some suppliers. The pilot studies could also assist in finding best practice solutions for the stone industry.
- Efforts should be made to continue to support workers with tools to establish labour groups and workers' organisations, and eventually also collective bargaining.
- Civil society organisations should get involved in follow-up studies to check whether improvements really are being conducted for benefits of the workers.
- Civil society organisations should strive to develop a uniform European standard for sustainable natural stone production.

# Annex 1: Details of relevant health and safety conventions

The most essential parts of the ILO Chemical convention for the purposes of this study are those prescribing that:<sup>69</sup>

1. The protection of workers from the harmful effects of chemicals also enhances the protection of the general public and the environment.
2. Workers have the right to information about the chemicals they use at work. Employers shall ensure that information about chemicals and the hazards associated with exposure to these chemicals are made available to workers and their representatives.
3. Employers shall ensure that workers are not exposed to chemicals to an extent which exceeds exposure limits.
4. Assess, monitor and record the exposure of workers to hazardous chemicals.
5. Ensure that these records are kept and are accessible to the workers and their representatives.
6. Employers shall make an assessment of the risks arising from the use of chemicals at work, and shall protect workers against such risks by appropriate means,
7. Employers shall limit exposure to hazardous chemicals so as to protect the safety and health of workers; provide first aid and make arrangements to deal with emergencies.
8. Train the workers on a continuing basis in the practices and procedures to be followed for safety in the use of chemicals at work.
9. Employers shall co-operate as closely as possible with workers or their representatives with respect to safety in the use of chemicals at work.
10. Workers shall have the right to remove themselves from danger resulting from the use of chemicals when they have reasonable justification to believe there is an imminent and serious risk to their safety or health.
11. Workers who remove themselves from danger in accordance with the provisions of the previous paragraph or who exercise any other rights under this Convention shall be protected against undue consequences.

The most essential parts of the ILO Occupational Safety and Health Convention for the purposes of this study are those prescribing that:<sup>70</sup>

1. Employers shall be required to ensure that, as far as is reasonably practicable, the workplaces, machinery, equipment and processes under their control are safe and without risk to health.

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<sup>69</sup> SwedWatch have edited freely from the ILO convention, even though most below items are quoted directly from the convention.

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2. Employers shall be required to ensure that, so far as is reasonably practicable, the chemical, physical and biological substances and agents under their control are without risk to health when the appropriate measures of protection are taken.
3. Employers shall be required to provide, where necessary, adequate protective clothing and protective equipment to prevent, so far as is reasonably practicable, risk of accidents or of adverse effects on health.
4. Employers shall be required to provide, where necessary, for measures to deal with emergencies and accidents, including adequate first-aid arrangements.
5. Representatives of workers are given adequate information on measures taken by the employer to secure occupational safety and health.
6. Workers and their representatives are given appropriate training in occupational safety and health.
7. Workers or their representatives are consulted by the employer on all aspects of occupational safety and health associated with their work.
8. Co-operation between management and workers and/or their representatives within the undertaking shall be an essential element of organisational and other measures.
9. Occupational safety and health measures shall not involve any expenditure for the workers.

The most essential parts of the Working Environment Convention (on air pollution, noise and vibration) for the purposes of this study are those prescribing that:<sup>71</sup>

1. Workers shall be required to comply with safety procedures relating to the prevention and control of, and protection against, occupational hazards due to air pollution, noise and vibration in the working environment.
2. Workers or their representatives shall have the right to present proposals, to obtain information and training and to appeal to appropriate bodies so as to ensure protection against occupational hazards due to air pollution, noise and vibration in the working environment.
3. As far as possible, the working environment shall be kept free from any hazard due to air pollution, noise or vibration.
4. The employer shall provide and maintain suitable personal protective equipment. The employer shall not require a worker to work without the personal protective equipment.
5. There shall be supervision at suitable intervals of the health of workers exposed or liable to be exposed to occupational hazards due to air pollution, noise or vibration in the working environment. Such supervision shall include a pre-assignment medical examination and periodical examinations. This shall be free of cost to the worker concerned.
6. All persons concerned shall be adequately and suitably informed of potential occupational hazards in the working environment due to air pollution, noise

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and vibration; and instructed in the measures available for the prevention and control of, and protection against, those hazards.



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