

# Project BMBF-MOST-MAREX

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## Report about Expert seminar and workshop in Hoa Binh on 01/11 to 03/11/2017

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## Seminar on “Cleaner Production, Mining Optimization and Material Flow Analysis”

The focus of the MAREX project is the examination of environmental impacts of urban growth and construction activities in the Metropolitan Region of Hanoi and Hoa Binh Province. MAREX focuses on the extraction of mineral raw materials for the construction industry, which include primarily stones, clay and sand. The project consists of four modules, which are contributing to the main objective to make mining more sustainable and to bring together responsible planning authorities and relevant stakeholders from the mining industry. On November 1st and 2nd, researchers from two of the four modules organized a planning seminar with focus on “Cleaner Production, Mining Optimization and Material Flow Analysis”. The seminar ended with an excursion around Hoa Binh, during which a construction company and a local mining site were visited. The three days were organised by German and Vietnamese experts working on material flow analysis on a regional scale, on life cycle assessment and on Cleaner Production Technologies on the level of mining companies.

The essential interface of the seminar foci lies in the assessment of the value chain “aggregates mining - transport - distribution - construction site - building”. Focal point and challenge of the seminar was to link research findings of the expert groups and to impart knowledge on different planning scales to the mixed audience consisting of officials working in local authorities, planners and entrepreneurs related to mining, regional planning, urban planning and construction planning. The total number of participants were 24 on November 1<sup>st</sup> and 29 on November 2<sup>nd</sup>. Planners, officials and the team of experts were the main participants in the excursion on November 3<sup>rd</sup>.

After an Introduction in the MAREX framework and in the applied methods (Topic 1, 2) interim results were presented by the respective experts. The aim of Topic 1 and 2 was to develop a common understanding about “sustainable mining” and to convey how sustainable mining activities in Hoa Binh Province could be achieved. Starting with strategies on regional level (Topic 3), through operational level strategies (Topic 4), to enterprise-level implementation proposals (Topic 5), the seminar served as a platform for interdisciplinary discussion and questions to each of the topics. The questions were mainly raised from the experts to the audience but also vice versa. The course of the seminar was based on the program shown in Table 1.

Table 1: Schedule of the MAREX seminar held on November 1st and 2nd 2017 in Hoa Binh City.

<b>01/11/2017, Wednesday</b>	<b>Referent</b>
Opening Speech	Prof. Müller (IOER), Mr Long (DoNRE)
<b>T1: Sustainable mining activities in Hoa Binh Province – the MAREX framework</b>	Dr Schiller (IOER)
<b>T2: Basic information on methods and concepts</b> <b>T2.1:</b> Planning oriented strategic Material Flow Analysis <b>T2.2:</b> Eco Efficiency, Life Cycle Assessment and Circular Economy	Dr Schiller (IOER) Prof. Schneider (HS Magdeburg)
<b>T3: Planning oriented strategic Material Flow Analysis</b>	Dipl. Ing. Bimesmeier (IOER)
<b>02/11/2017, Thursday</b>	<b>Referent</b>
<b>T4: Operational Material Flow Management - Environmental Impact Assessment</b>	Pham Thi Viet Anh. PhD. (IEA, Hanoi)
<b>T5: Strategies towards efficient mining</b> <b>T5.1:</b> Artificial Sand Production <b>T5.2:</b> Advanced mining technologies in open pit mines - drilling and blasting <b>T5.3:</b> Challenges and opportunities of aggregates mining in Hoa Binh province - the engineering perspective	Prof. Schneider (HS Magdeburg) Dr Riedel (C&E)  Dipl.-Ing. Oswald (C&E)
<b>03/11/2017, Friday</b>	

Excursion to a local infrastructure company in Hoa Binh City and a mining site within the province.

At the end of the two day seminar, a final discussion round was initiated by Dr Georg Schiller in order to summarize and critically reflect the learnt. The conclusions were drawn both from the content of the lectures and from the information gained from the interim question and discussion rounds.

The interest in regional material flow calculations was particularly high. Not only planners, but above all the mining companies enriched the discussion about the assumption framework of the calculation model. Concerning the activities on the mining sites, it could be finally be stated, that the lack of efficiency is nor primarily a technical problem, but more a management problem of the mining companies. Currently mining sites in Vietnam are usually small scale, a situation which leads to an incapacity to do long-term investments, to small extraction volumes per year and to a high competitive pressure. Based on statements of the mining companies, the small-scale mining solution is the best against the background of the current legal framework. Because it means high risk for small businesses to invest in new technologies that are not fixed in the legal framework, the companies prefer to accept lower efficiency but an approval of their mining activities by the government. Nevertheless, there is a great desire to invest in new technologies, such as for the production of artificial crushed sand. Hence, one of the main conclusions is that in order to push through ideas to strengthen sustainable mining, more collaboration on the level of the companies is needed. A response could be building up an advocacy for the mining companies in order to influence political decisions from bottom-up.

## Impressions



*Photo 1: Expert seminar and workshop at the Department of Natural Resources and Environment (source: T. Bimesmeier)*



*Photo 2: Group photo with the experts and several participants of the workshop (source: T. Bimesmeier)*

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