The dimension stone industry of Peninsular Malaysia

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The relatively young dimension stone industry in Peninsular Malaysia is dominated by 4 large companies which produce cut, polished and trimmed-to-size both local and imported marble and other related stones. They produce in total about 46,000 square metres (500,000 sq. ft.) of 16 mm or 19 mm thick polished marble slabs per year largely used for floors, walls and exteriors of prestigeous buildings.

Increasing numbers of smaller marble factories, largely concentrated in the Ipoh area, which traditionally produced broken marble, skirtings and marble skins are entering the more lucrative dimension stone market by producing 13 mm thick polished or unpolished marble slabs with dimensions up to 610 mm (2 ft.) by 305 mm (1 ft.).

Consumer preference (for imported marble), architect/decorator recommendation, lower price, poor recovery during processing, lack of variety and inability to produce large quantities of consistent quality weighed against the local marble slab production which within the last few years have captured only 35% of the dimension stone market.

Marble blocks have been successfully quarried from four areas (namely, Langkawi, Baling, Gunung Rapat and Keramat Pulai) for the production of dimension stones. Extraction of blocks is by drilling closely spaced (75 mm) holes followed by wedging. Two attempts to use helicoidal wire saw were unsuccessful although presently a newly formed company is extracting blocks by wire saw in an old block quarry face on Pulau Dayang Bunting, Langkawi.

Processing of the blocks to yield dimension stones involves 3 stages: sawing into slabs, trimming to size, levelling and polishing. Gang and sometimes circular blade saws are used for slab cutting. Gang saws fitted with 30 to 60 diamond impregnated blades are used. Cutting rate ranges from 15 cm to 25 cm per hour. Trimming to size is carried out by circular blade saws of diameters from 200 mm (8 inches) to 915 mm (36 inches) some of which can cut up to 8 slabs in a single pass. Levelling and polishing are carried out by diamond, carborundum and other abrasive compressed or impregnated polishing stones glued onto interchangeable polishing heads fitted to fully or semi-automatic polishers. The polishing consists of 4 or 5 steps using progressively finer grade impregnated abrasives. Finishing stones (last one or two steps) consist essentially of compressed oxalic acid impregnated with very fine graded polishing

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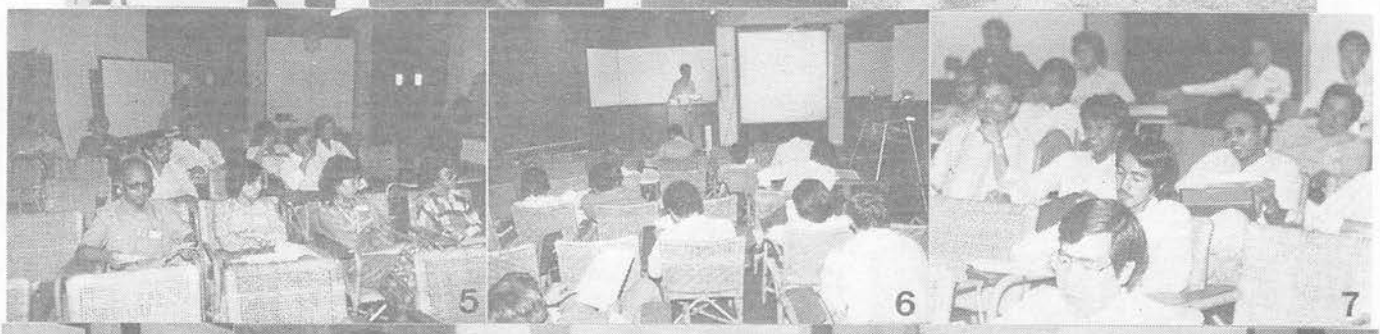
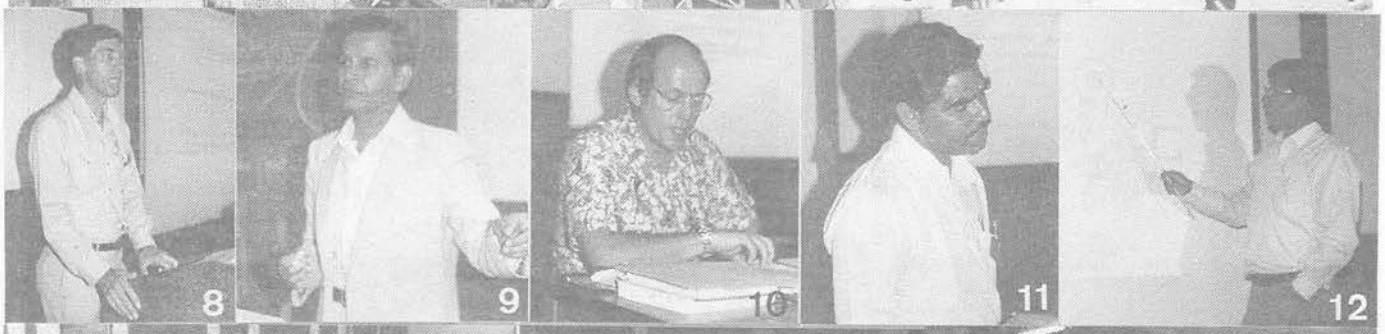
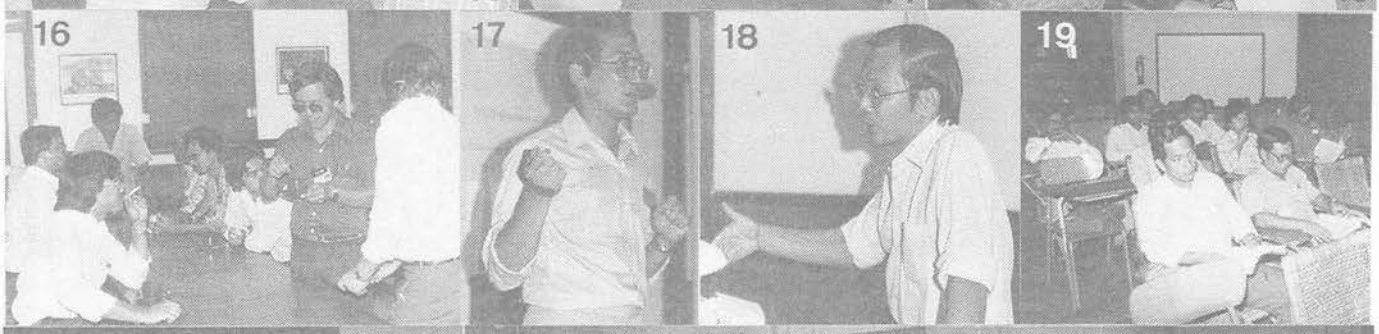
TRAINING COURSE 1982







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SYMPOSIUM & FIELDTRIP 1982

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ROCKCON - captions to photos

Training Course

1	GSM President, T.T. Khoo, addressing the participants
2	AGID Representative, B.K. Tan, with his address
3	Tan Boon Kong, Organising Chairman, with his speech
4	Group photo of some of the participants
5 - 7	The Training Course gets underway
8	P.J. Clutterbuck with one of his many lectures
9	Yudbir on material testing
10	Stig Olofsson on blasting practices
11	Aboo Bucker on concrete application
12	M.T. Koh on crushing equipment
13 - 16	Coffee time - time for discussions, exchange of ideas, etc.
17	Y.K. Shu on quarry investigation
18	Y.F. Wong elaborating on land matters
19 - 20	Participants listening and noting down important points
21-22	M.S. Subrahmanyam demonstrating the instruments at civil engineering dept., UM.

Symposium and Fieldtrip

23	Participants registering for the Symposium
24	GSM President declaring open the Symposium
25	P.J. Clutterbuck with his paper on material requirements
26	B.K. Tan on geotechnical problems over subsurface marble bedrock
27 - 28	The audience at the Symposium
29	A question from the floor
30	Session Chairman, Senathi Rajah lending an ear to the query
31	Ibrahim Komoo stressing a point
32	Tan Boon Kong locating the Bekok Dam on the screen
33	Session Chairman, H.C. Chu, starting off the second session
34	E.B. Yeap on dimension stone industries
35	Session Chairman, Y.K. Shu, inviting questions or comments for discussion
36	C.A. Foss on seismic refraction survey
37	P.C. Aw with his paper on the extraction of sand and gravel
38	S. Subramaniam with a question for J.K. Raj
39	S. Subramaniam taking over as Session Chairman
40	Yet another question from the floor
41	Mohd. Ali Hasan ably presenting his paper
42	Agus Brotodihardjo on exploitation of construction materials
43 - 46	Training course and symposium participants on the fieldtrip to Sungei Way Enterprises.

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powder. Semi-automatic polishers appear to give a higher quality finish and one person can polish 5.5 to 7.5 sq. m. (60 to 80 sq. ft.) per 8 hour shift.

Imported marble blocks, largely from Italy and other European countries, are extracted by helicoidal or diamond wire saw methods and are more regular in shape (cubic, rectangular). Recovery from imported blocks is 15% to 25% higher than local blocks which generally show joints and cracks.

Most varieties of marble local or imported are unsuitable for exterior facing in the tropical humid and hot climate of Malaysia. There is an increasing trend in the use of imported granites and other igneous rocks, which are more expensive and constitute a few percent of the market, for exteriors.

There are abundant sources of suitable marble, granites and other rocks for the dimension stone industry in Malaysia. Consumers, architects and interior decorators should be exposed to the characteristics, the correct use and maintenance of the local dimension stones. For the good of the industry a more professional approach and better technological know-how (not necessarily totally foreign dependent) should be introduced so that the local dimension stone industry can face the challenges from imported stones, tiles and artificial, compressed and agglomerate marble.

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