



2nd International Seminar and Workshop on Ecological Architecture and Environment in the Tropics

17 - 19 February 2005

Environment-Man-Building Centre of Education (LMB)
Soegijapranata Catholic University Semarang - Indonesia

Final report

General remarks

The main objective of the LMB environment-man-building center of education is to initiate a nationwide process of consciousness on behalf of the holistic interconnections between cause (environmental pollution, building) and effect (health hazards, illness), as fundamentals for measures towards an improved quality of life.

Educational processes on awareness need a very long phase of implementation and the adequate horizon of time is measured in generations. If positive changes are to be initiated, new education scheme should not train elitist specialists, but motivators with practical minded abilities who can absorb knowledge of different manners and methods.

Parts of our education schemes are the International Seminars and Workshops on Ecological Architecture and Environment in the Tropics of which this was the second, with the topics of *environment as educational basics, simple assessment of environmental interventions, ecological building materials, and foodstuff, cooking transformation and nutrition*. Hence we cover a broad field within our objective of this seminar.

It was the aim of this seminar and workshop to share on one hand LMB's experiences, for example by presenting some examination papers of the participants of its pilot course and simultaneously offers a platform for meetings with international senior as well as junior researchers from Europe and Asia. On the other hand, with the attached workshop also the LMB could gain something from this event.

A film team from the Soegijapranata University should film the keynote speeches with corresponding interviews, glimpses on certain presentations, but inexplicably the quintessence, the presentations of the moderators concluding the respective topics at the end of the seminar have not been filmed. The film is therefore useless.

Although the seminar was successful, it was a pity that in the last month before the seminar nine foreign speakers out of nineteen had cancelled their attendance, which forced the organizing committee from LMB to revise the seminar programme quite a few times. Even more unfortunate was the inexcusable absence of seven Indonesian presenters, who just failed to appear.

The seminar (17-18 February 2005)

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12 international and 30 Indonesian speakers, as well as 29 participants attended the seminar. The opening address was read by the rector of the Soegijapranata Catholic University. The keynote speeches for this seminar were about nature as teachers presented by Prof. em. Peter Schmid (Technical University Eindhoven) and Gabriella Pal-Schmid, and about polluted food system - xenobiotics flow along the food chain by Prof. Budi Widianarko (Soegijapranata Catholic University), therefore connecting nicely the starting point for the seminar with the workshop at the end.

Topic: Environment as educational basics

The first topic, *environment as educational basics*, with the aim for developing and promoting new educational programs where nature could teach us how to achieve a sustainable development in Indonesia was moderated by Peter Schmid in the Ignatius chapel.

First, two participants of the LMB pilot course, Haryo Goeritno and Hermawan Pancasiwi, presented their paper on dwelling strategies and health improvement, respectively on environmental problems as a community's issue, followed by two presentations on vernacular wisdom, bioclimatic in Hassan Fathy's Architecture by Krisprantono (Soegijapranata Catholic University) and on local religion and tradition for environment management by Y. Djarot Purbadi (Atma Jaya Yogyakarta University).

Urs Maurer (SIB, Switzerland) opened the second day with a double lecture on nature as an educator of the child, followed by a presentation about children perception of the surrounding environment to construct a sustainable framework of thinking by Lucia Asdra Rudiwati (Atma Jaya Yogyakarta University). Then two presentations on the impact of river dike project of Code river by Dwita Hadi Rahmi (Gajah Mada University Yogyakarta), and landslide, flood and housing in Semarang by using GIS by Alwi Foad (Map division Swarna Dasakarya) and Hendro Prabowo (Gunadarma University Jakarta) followed. After lunch in a tent, two papers on education of landscape architecture in Indonesia by Rustam Hakim (Trisakti University Jakarta) and about the application of green building regulations applied to old building in Taichung by Chen Yu Wang and Prof. D.H. Jiang (Feng Chia University, Taiwan) were presented. The end of this topic was a presentation about eco-feminism to open a new horizon in environmental meaning by Laksmi Gondokusumo Siregar (University of Indonesia).

Topic: Food stuff, cooking transformation, and nutrition

The topic on food stuff, cooking transformation, and nutrition was set in order to get new holistic information about this subject which was also the topic of workshop 2. Because there were only six papers on this subject, this topic was set on the afternoon of the first day in a room of the Training Center and was moderated by Prof. Budi Widianarko.

Annegret Bohmert, a nutrition specialist from Switzerland, spoke about healthy food for physical, mental, and social well-being, followed by two reports of experience, Sri Gayatri (Soegijapranata Catholic University) on vegetarian food and Petra Widmer with Tri Hesti Mulyani (Soegijapranata Catholic University) about teaching experience with a module on food and foodstuff. After a break Bambang Suskiyatno, a participant of the LMB pilot course, presented his paper on the standard of maximum calories in wrapping food. The last two presentations dealt about forage as a post for environmental construction of ruminant livestock farming by Eko Hendarto and Suwarno (General Soedirman University, Purwokerto) and on green mussels, a new polluted foodstuff in Jakarta by Hendro Prabowo and Heri Suprpto (Gunadarma University Jakarta).

Topic: Simple assessment of environmental interventions

Because of some difficulties to find appropriate instruments for simple assessments of environmental interventions on certain services, the LMB set a topic on *simple assessment of environmental interventions*. Due to some cancellations of important resource persons we have not been able to fill the second day of this session with experts on the subject. This session was held in a room of the Training Center and was moderated by Angelika Riyandari (Soegijapranata Catholic University).

This session started with a presentation about ecominimalism by Howard Liddell (GAIA, Scotland) followed by a lecture about environmental architecture and behaviour approach towards the human environment by Pat Ristara Gandhi (Soegijapranata Catholic University) and Prof. Sandy Halliday (University Glasgow) on an accreditation scheme in sustainable design for architects. Afterwards Widaryanto, a participant from the LMB pilot course presented his paper on a magnetic field detector. After lunch in the tent a presentation on healthy city program - assessment of solid waste management by Setiawan (Gajah Mada University) and one about a simple simulation tool of building shadow movement in the tropics for architectural design process by Eka Setiadi (Trisakti University Jakarta) followed. The last presentation by Lin W.C. and Prof. D.H. Jiang (Feng Chia University, Taiwan) dealt with the effectiveness of integrated highway user's information system.

Topic: Ecological building materials

The last topic was on *ecological building materials* in order to increase the East-West dialogue on appropriate sustainable and ecological building material and was moderated by Howard Liddell in the open Pendopo.

This session was opened by a presentation by Michiel Haas (NIBE, The Netherlands) about the importance of certificated wood, followed by Jana Dreikhausen (Auroville, India) about sustainability and architectural philosophy. Afterwards there were two papers presented by Johannes Tarigan and Binsar Silitonga (St. Thomas Catholic University, Medan) about solutions for the stability of slopes by an ecotechnic approach and Totok Noerwasito (Surabaya Technical Institute Sepuluh November) about the problems of solid clay in East Jawa.

On the second day Jürgen Becker (IBE, India) spoke about biological, ecological earthquake-resistant buildings, followed by two lectures on natural ventilation system for an university library by Ayub Listriadi (Soegijapranata Catholic University) and the role of adaptive behaviour on thermal comfort perception and expectation in tropical buildings by Henry Feriadi (Duta Wacana University, Yogyakarta). After lunch in the tent, Michiel Haas presented a paper from Hildegund Mötzi (IBO, Austria) about Natureplus - an international seal of quality of building products followed by a research presentation about natural paints from Singgih Susiono (St. Paulus Catholic Academy for Chemistry, Semarang) and Heinz Frick (LMB, Soegijapranata Catholic University). The last presentation dealt with the factor of wall thickness for thermal comfort in the tropics by Yayi Arsandrie (Muhammadiyah University Surakarta).

The workshops as a follow-up to the seminar (19 February 2005)

Workshop: environment as educational basics

The first workshop on *environment as educational basics* should provide the LMB with adequate teaching aids so that pupils may regard their natural environment as an example. Under the leadership of Tri Hesti Mulyani (LMB, Soegijapranata Catholic University), thematically, and Prof. em. Peter Schmid (Technical University Eindhoven), methodically this workshop used the original method of holistic participation as developed by Peter Schmid. This workshop was set in the Ignatius chapel.

The 11 participants of this workshop developed in three groups under the guidance of Lisa Dietrich (SIB, Switzerland), Ygn. Dono Sayoso and Hermawan Pancasiwi (Soegijapranata Catholic University) three teaching modules of three hours each for pupils of the age from 9-12 years. The developed modules were focussed on soil, air, and water. Each module was equipped with a teaching program containing motivation, elaboration, and consolidation.

- The topic soil consists for example on experiments on fertility and purification of polluted soil,
- the topic air contains experiments on wind instruments and smoke as air pollutant which where easy to be taught understandable; and
- the topic water caused the most problems and has to to be developed further.

Thanks to the leadership of Peter Schmid and the excellent teamwork of the three group leaders, this workshop was able to provide quite applicable solutions of how pupils can learn directly from nature.

Workshop: foodstuff, cooking transformation and nutrition

The second workshop (parallel to the first) on *foodstuff, cooking transformation and nutrition* should provide the LMB with an adequate lesson plan for adult education. Under the leadership of Annegret Bohmert (nutrition specialist, Switzerland), thematically, Howard Liddell (GAIA, Scotland) and Heinz Frick (LMB, Soegijapranata Catholic University) this workshop started two hours late because of lack of participants. In this workshop a revised and more intensive method of holistic participation further developed by Howard Liddell was used. This workshop was set in the Pendopo and the Training Center.

The 17 participants (mostly architecture students) of this workshop developed in three groups under the guidance of Petra Widmer, Sri Gayatri and Lusika Yuliana (LMB, Soegijapranata Catholic University) three teaching modules for adult education. The three modules were ecological footprint (the need of cultivated land for the population and the impact on the environment, ecological backpack, Asian diet pyramid), food chain (transports, industrial processings, and transformation processes of food and the pollution of water, air, and soil, occurring diseases, hunger and mal-nutrition), and energies in the kitchen (principle of cold and principle of heat, qualities of sources of energy, preservation of food etc.). Due to the comprehensive input of Annegret Bohmert and the excellent teamwork of the three group leaders this workshop was able to provide the objectives, subject matters (contents of the module), and timetable for each subject (six teaching lessons), as well as a detailed lesson plan with motivation, elaboration, and consolidation for a chosen key-lesson.

Although the time was very limited, each group could present their results in a last plenary session before this workshop was closed. Peter Schmid thanked the LMB, especially Petra Widmer, on behalf of the participants and presenters for the excellently organized seminar and workshop.

The feedback from the workshop participants, mostly students, showed that they liked it very much to work with the method of holistic participation, which was obviously new for them.

Final remarks, future prospect

The composition of the participants, 12 international and 30 Indonesian speakers, as well as 9 international and 20 Indonesian participants mirrored the differences in the understanding of a seminar. The foreign participants were highly motivated and appreciated the supporting environment of the seminar, on contrary, most of the Indonesian speakers use a seminar to present their papers because of the qualifying points they will earn in order to promote their own academic promotion. They only

attend a seminar to read their paper and leave afterwards immediately. Therefore their contribution is rather limited and our aim to offer a platform for meetings with international senior as well as junior researchers from Europe and Asia was only used by very few Indonesians.

We have got quite an encouraging input from foreign speakers and participants of the seminar, but, because of the above mentioned reasons, little from Indonesians.

The next time we will have to think more carefully about the name, *seminar* could perhaps be replaced by *conference* or *meeting*. We also have to connect the subjects of the different sessions (topics) more carefully. It was not altogether clear why nutrition should be a part of ecological architecture and environment. But we can destroy our natural environment either by inadequate buildings or by inadequate agricultural measures as well. Therefore is what we eat of equal value as where and how we dwell.

Because the workshop was in the announcement of the international seminar and workshop only mentioned in the text but not on the timetable, some participants got confused and assumed the third day as excursion-date. In this field we had a lack of communication. We had luck, that Howard Liddell from Scotland had a broad experience about workshop with a shortened method of holistic participation and we could invite interested students from the architecture department who were engaged in the seminar organisation anyway.

Because of the above mentioned circumstances the seminar and the workshop could not develop the aimed integral unity. Most members of the workshop had not attended the respective session (topic) of the seminar. A transmission lack of necessary basic information was the consequence. Nevertheless the participants of the workshop worked very engaged and the results contain valuable hints and examples for further education modules for LMB, either for our new teaching aids for pupils on *environment as educational basics*, or for an adequate lesson plan for adult education on *foodstuff, cooking transformation and nutrition*.

Therefore the hard time of preparatory work for this seminar and workshop has been compensated by many new personal contacts between LMB members and foreign researchers in the field of building biology and ecology as well as in nutrition and by the rich material we have received from the workshops.

Semarang, 18 March 2005

DEng. Heinz Frick, dipl.arch FH/SIA