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The Fellows of the Council serve as a pool of knowledge and expertise on Borneo matters which may be drawn upon to deal with specific problems both in the field of research and in the practical application of scientific knowledge.

Fellowship in the Council is by invitation, and enquiries are welcomed in this regard.

INFORMATION FOR AUTHORS

Research Notes: These should be concerned with a summary of research on a particular subject or geographical area; the results of recent research; a review of the literature; analyses of state of research; and so forth. Research Notes differ from other contributions in that the material covered should be based on original research or the use of judgement, experience and personal knowledge on the part of the author in the preparation of the material so that an original conclusion is reached.

Brief Communications: These differ from the foregoing in that no original conclusions are drawn nor any data included based on original research. They also differ in consisting primarily of a statement of research intentions or a summary of news, either derived from private sources or summarized from items appearing in other places that may not be readily accessible to the readers of the Bulletin but which have an interest and relevance for them. They will be included with the contributor's name in parentheses following the item to indicate the source. Summaries of news longer than one or two paragraphs will appear with the contributor's name under the title and prefaced by "From."

Bibliographic Section: A Bibliography of recent publications will appear in each issue of the Bulletin, and, consequently, reprints or other notices of recent publications would be gratefully received by the editor.

Other Items: Personal news, brief summaries of research activities, recent publications, and other brief items will appear without the source specifically indicated. The editor urges those contributing such news items to send them in the form and style in which the contributor wishes them to appear rather than leaving this to the discretion of the editor.

STYLE FOR CONTRIBUTIONS

Please submit all contributions double spaced. Research Notes and Brief Communications should be limited to approximately eight double-spaced pages. Footnotes are to be avoided wherever possible. Bibliographies should be listed alphabetically by author at the end of contributions. For punctuation and capitalization refer to Bibliographic Section.

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NOTES FROM THE EDITOR

New Change in Editorship

As a result of unexpected and increasing demands on Dr. Doering's time to deal with various aspects of the energy crises in the Midwest, he has had to resign as editor of the BRB. Fortunately, Dr. Donald Brown has kindly offered to step in at this particular time and take over the duties of editor. This situation has been reflected in the delay of publication of this issue, as well as in its preparation, for it is the result of the joint efforts of the past editor, the passing editor, and the future-present editor. All correspondence should now be addressed to: Dr. Donald E. Brown, Editor, Borneo Research Bulletin, c/o Department of Anthropology, University of California, Santa Barbara, California 93106, U.S.A.

Contributions for the Support of the BRC

I would again like to thank all those individuals who have generously contributed to the costs of publishing the BRB: Sin-Fong Han; M. Roff; R. Peranio; W. Collier; R. Inger; E. J. H. Cornér; G. N. Appell.

THE BORNEO RESEARCH COUNCIL

The Borneo Research Council was founded in 1968 and its membership consists of fellows, an international group of scholars who are professionally engaged in research in Borneo. The goals of the Council are (1) to promote scientific research in the social, biological, and medical sciences in Borneo; (2) to permit the research community, interested Borneo government departments and others to keep abreast of ongoing research and its results; (3) to serve as a vehicle for drawing attention to urgent research problems; (4) to coordinate the flow of information on Borneo research arising from many diverse sources; (5) to disseminate rapidly the initial results of research activity; and (6) to facilitate research by reporting on current conditions. The functions of the Council also include providing counsel and assistance to research endeavors, conservation activities, and the practical application of research results.

Support for the activities of the Council comes from subscriptions to the Borneo Research Bulletin, Fellowship fees, and contributions. Contributions have played a significant part in the support of the Council, and they are always welcome.

RESEARCH NOTES

GEOGRAPHICAL RESEARCH IN BORNEO

Gale Dixon
 Monash University

Unlike anthropologists, few geographers of either the human or physical type have focused their interest on a small enough area for a long enough period of time to become identified with scholarly works on that place. One rarely hears a geographer talk about "my people" or "my river" to the degree that one almost expects among scholars of some other disciplines. Accordingly, it is somewhat difficult to bring to mind the names of geographers who have worked in and written on Borneo.

Nonetheless, there are a number of geographers who have done substantive work in Borneo and, since their work is often of considerable value to people in other fields, it is worth attempting at least to find out who they are and what they have done.

The list that follows includes the names, addresses, interests and works of geographers who are known to have done field research in Borneo within the past ten years, plus some others who have expressed an interest in East Malaysia or Kalimantan but about whose specific research no information is readily at hand. The list makes no pretense at completeness. In fact, it would perhaps be better entitled: "Borneo Geographers I Have Known Plus a Few Discovered in Orbis Geographicus (Wiesbaden, 1970)." I am certain there are some who must have been overlooked. To them I apologize and encourage them to raise their voices. There are others who are interested in their work. Several of the scholars listed have significant publications not included under their "works"; only their titles concerned directly with Borneo are included.

BUCHANAN, I. D., Department of Geography, University of Malaya, Pantai Valley, Kuala Lumpur. Field Research: unknown.

DIXON, GALE, Department of Geography, Monash University, Clayton, Victoria, 3168, Australia. Field Research: Sarawak, August 1970 to July 1971 (also travel in Kalimantan and residence in Sabah). Interests: cultural geography, settlement, cultural landscapes, architecture. Works: Rural Settlement in Sarawak, unpublished doctoral dissertation, Department of Geography, University of Oregon, 1972. "Recreation Potential in the Kuching Area," Sarawak Gazette XCIX (1381), March 31, 1973, pp. 31-35.

ELLISTON, G. R., Department of Geography, University of Hull, Cottingham Road, Hull, Yorkshire. Field Research: unknown. Interests: unknown (economic geography?). Works: The Marine Fishing Industry of Sarawak, Department of Geography, University of Hull, Miscellaneous Series No. 4, 1967.

FITZGERALD, DENIS P., Department of Geography, Carleton University, Ottawa 1, Ontario, Canada. Field Research: Kalimantan,

six months in 1970. Interests: processes of pioneer settlement. Works: "Pioneer Settlement in Southern and East Kalimantan," Borneo Research Bulletin 4:9-12, 1972.

HEALY, JOHN R., Department of Geography, University of Hawaii, Hilo Campus, Hilo, Hawaii. Field Research: Sabah 1962 to 1963(?). Interests: unknown (cultural geography?). Works: A Geographical Study of the Coastal Zone of Western Sabah, unpublished doctoral dissertation, Department of Geography, UCLA, 1964.

JACKSON, JAMES C., Department of Geography, University of Hull, Hull HU6 7RX, Yorkshire, England. Field Research: Sarawak and Kalimantan Barat, 1966(?). Interests: historical geography, cultural geography, agriculture. Works: Sarawak: A Geographical Survey of a Developing State, London, Univ. of London Press, 1968. Chinese in the West Borneo Gold Fields: A Study in Cultural Geography, University of Hull, Occasional Papers in Geography, No. 15, 1970.

JOHNSTON, DOUGLAS C., Department of Geography, University of Canterbury, Christchurch, New Zealand. Field Research: Sabah, 1969. Interests: transportation, land settlement. Works: "Mental Maps: A View of Sabah," in Proceedings of the Sixth New Zealand Geographical Conference, R. J. Johnston and Jane M. Soons, eds., New Zealand Geographical Society Conference Series, No. 6, 1971, pp. 265-272.

KHOO SOO HOCK, Department of Geography, University of Malaya, Pantai Valley, Kuala Lumpur. Field Research: unknown. Interests: rural settlement and land utilization. Works: unknown.

KUHNE, DIETRICH, Geographischen Institute der Ruhr-Universitat, 463 Bochum-Queerenberg, Buscheystrasse NA, Germany. Field Research: Sarawak, September-October 1970; Sabah, November 1970. Interests: social geography, economic geography, population. Works: Malaysia - Ethnische, Soziale und Wirtschaftliche Strukturen, Bochumer Geographische Arbeiten, Heft 6, Paderborn (Ferdinand Schoningh), 1970.

LEE YONG LENG, Department of Geography, University of Singapore, Bukit Timah Road, Singapore 10. Research: Sabah, Sarawak, and Brunei, various since c. 1961. Interests: settlement, population. Works: "Agriculture in Sarawak," J. Tropical Agriculture, 21, December 1965, pp. 21-29. "The Chinese in Sabah," Erdkunde, 19(4), 1965, pp. 306-314. "The Chinese in Sarawak," Sarawak Museum J. 11(23/24), 1964, pp. 516-532. "The City of Many Waters," Hemisphere (Australia), 8(6), 1964, pp. 8-11. "The Dayaks of Sarawak," J. Tropical Geography, 23, 1966, pp. 28-39. "The Development of Resources in British Borneo and its Impact on Settlement," Sarawak Museum J., 10(19/20), 1962, pp. 563-589. "Historical Aspects of Settlement in British North Borneo," Pacific Viewpoint 2(2), 1961, pp. 187-212. "A Land for All: Rural Development in Sarawak," Far Eastern Economic Review, 58(10), 1969, pp. 410-411. "Land Settlement for Agriculture in North Borneo," Tijdschrift voor Economic en Sociale Geographie, 52, 1961, pp. 184-191. "Land Use and Development in Sabah and Sarawak," in Economic Problems of Malaysia, P. S. You, ed., 1965, pp. 23-32.

"Land Use in Sarawak," Sarawak Museum J., 16(32/32), 1968, pp. 282-308. "The Long-House and Dayak Settlements in British Borneo," Oriental Geographer, 6, 1962, pp. 39-60. "The Malays of Sarawak," Hemisphere, 11(4), 1967, pp. 28-31. North Borneo, A Study in Settlement Geography, Singapore (Donald Moore), 1965. "Padi Production and Further Settlement in Borneo," World Crops, 16(4), 1964, pp. 40-45. "Planned Villages and Land Development Schemes in Sarawak," Ekistics 27(158), 1969, pp. 70-80. Population and Settlement in Sarawak, Singapore (Asia Pacific Press), 1970. "Population Changes in Sabah, 1951-1960," J. Tropical Geography, 26, 1968, pp. 55-68. "The Population of British Borneo," Population Studies, 15(3), 1962, pp. 226-243. "The Population of Sarawak," Geographical J., 131(3), 1965, pp. 344-356. "The Port Towns of British Borneo," Australian Geographer, 8(4), 1962, pp. 161-172. "Rural Settlements in British Borneo," Tijdschrift voor Economic en Sociale Geographie, 54(1), 1963, pp. 12-21. Settlement and House Types in North Borneo, unpublished master's thesis, Department of Geography, University of Malaya, Singapore, 1958. "Some Aspects of Shifting Cultivation in British Borneo," Malayan Forester, 24, 1961, pp. 102-109. "Some Factors in the Development and Planning of Land Use in British Borneo," J. Tropical Geography, 15, 1961, pp. 66-81. (Also, a book on population and settlement in Brunei, probably published in 1972 or 1973).

MAHMUD, ZAHARAH, Department of Geography, University of Malaya, Pantai Valley, Kuala Lumpur. Field Research: unknown. Interests: historical geography. Works: unknown.

UHLIG, H., Geographisches Institut, 6300 Glessen, Landgraf Philipp-platz 2, Germany. Field Research: Sabah, dates unknown. Interests: unknown. Works (partial listing): "Hill Tribes and Rice Farmers in the Himalayas and South-east Asia: Problems of the Social and Ecological Differentiation of Agricultural Landscape Types," Transactions and Papers, Publication No. 47, The Institute of British Geographers, 1969. "Die ablosung des Brandrodungs-Wanderfeldbaues: Wirtschaftsund Sozialgeographische Wandlungen der Asiatischen Tropen am Beispiel von Sabah und Sarawak (Malaysia)," Deutsche Geographische Forschung in der Welt Von Heute: Festschrift für Erwin Gentz. Kiel, Berlag Ferdinand Hirt.

WARD, R. GERARD, Department of Human Geography, The Research School of Pacific Studies, The Australian National University, Box 4 P.O., Canberra, A.C.T. 2600. Field Research: Kalimantan Barat, 1973. Interests: transportation. Works: unknown.

It should be mentioned that a number of physical geographers have written works on aspects of Borneo climatology, biogeography and geomorphology. At this writing, I did not have sufficient information about them to include them in the list.

A DATA SOURCE FROM KALIMANTAN - APDN SKRIPSI

Herbert L. Whittier
Michigan State University

A valuable collection of research material on Kalimantan in particular and Indonesia in general that seems to have passed

the notice of scholars pursuing research in these areas are the *skripsi* (theses) written by students of the APDN (*Akademi Pemerintahan Dalam Negeri*). Each province in Kalimantan, and, I am told, other provinces in Indonesia, has its own APDN, usually located in the provincial capital. The APDN is a three-year institute whose goal is to train civil servants and *tjamats* (subdistrict officers) in the principles of government administration. After two years of classroom experience, each prospective graduate is expected to carry out six months of research and then produce a *skripsi* or thesis.

The research topics vary a great deal but, in general, those pursued by coastal students are related to problems of local administration and development. The *skripsi* produced by students from the interior tend to be more ethnographically oriented. These students know there is a good possibility that they will be assigned to their home districts upon graduation from the academy. Doing their research there gives them a chance to gain a working acquaintance with the local administration.

Most of the *skripsi* run from 100 to 150 pages and contain maps, information on distribution of ethnic groups, notes on local resources, and an outline of local history and local administration. The *skripsi* by students from the interior contain a great deal of ethnographic information useful for anyone doing research in the area in question.

The student keeps one copy of the *skripsi*; the APDN keeps one copy; the provincial governor's office keeps a copy; and a fourth copy is sent to the *Perwakilan* of the province in Jakarta. Extra copies are not available and there is generally no way of reproducing copies, so scholars are asked not to write for copies of *skripsi*. Any properly sponsored scholar, however, should have no trouble gaining permission to work with the *skripsi* in Jakarta or at the local APDN.

The *skripsi* with which I am familiar are those produced by students at the APDN in Samarinda, East Kalimantan, and this report is based on those *skripsi*.

The *skripsi* I examined at the Samarinda APDN varied greatly in quality, ranging from adequate B.A. work to one that could have received an M.A. in anthropology.

The first three graduating classes of the East Kalimantan APDN (1968, 1969, and 1970) produced a total of 115 *skripsi*. On the bases of their titles, these works can be divided into the following categories: Development and Education 7; Development and Agriculture 11; Development and Health 3; Development and Economics 25; Development in General 21; Local Custom and Adat 11; Government and Administration 23; Migration and Border Crossing 13; and History 1.

Of these 115 *skripsi*, 26 concern interior peoples and interior areas. The ethnic group breakdown of these *skripsi* is as follows: Kenyah 6; Tundjung 5; Punan 2; Lun Daja 2; Kayan Ga-ay (segai) 1; Benua' 1; Malinau 1; Bauo 1; Brusu 1; and not specified 4.

The following listing contains the authors of the *skripsi* along with the English translation of the titles that have been produced at the APDN in Samarinda.

1967-1968

- Lahmuddin Umar, Examining Sources of Income in the Area of Kotamadya, Balikpapan.
- Zainuddin Usman, Steps Towards Rural Social Development in the Area of Ketjamantan Tandjung Palas.
- A. S. Muhammad, Several Aspects of Rural Development in Loa Djanan Ulu.
- Djapar Siddik, Government Policy of Kabupaten Bulongan in Improving Interior Society.
- Sofjan Muhammad, The Regional Government of Kabupaten Bulongan.
- Nilas Mou, Several Notes Concerning: The Development of the Region Tanah Tidung into Kabupaten Tanah Tidung at Tidung Pala.
- James Adan, Several Notes Concerning: The Migration of the Dayak of the Apo-Kayan in Kabupaten Bulongan.
- Abdul Rachman Fornia, Cooperative Life in Tanah Gerogot (The Life of a Cooperative in Tanah Gerogot).
- Andi Makkulau, The Autonomous Existence of Kabupaten Pasir.
- M. Jusran Djaprie, Sambaliung Society in Ketjamatan Sambaliung, Kabupaten Berau.
- M. Simandjuntak, Punan Society in Ketjamatan Kelaig, Kabupaten Berau, Province of East Kalimantan.
- Abd. Latief, The Interior Society of Kabupaten Bulongau at a Glance.
- Helmy Effendy, Government Organization and Development in Kabupaten Bulongan.
- Hadariansjah Achmad, The Function of Cooperation in Several Aspects of Social Life in Kabupaten Pasir.
- Ednan Dante Setia, Problems of Government in Kotamadya Balikpapan.
- Idris Said, The Question of Transmigration in the Development Plan of Kabupaten Bulongan.
- Lamsur, The Regional Government of Kotamadya Balikpapan.
- Sjachrial Setia, The Implementation of Transmigration in Baturatna Kotamadya Balikpapan.
- Bustaman Arham, The Problem of Rural Social Development in Kabupaten Pasir.
- Ratna Kentjana, The Realization of Transmigration in the Plan of Rural Social Development in Rawa Makmur, East Kalimantan.

- Boestani Arham, The Possibility of the Formation of an Autonomous Region Kabupaten Pantai.
- Abdullah Sani, Farmers' Cooperatives in the Development of Rural Society in Ketjamatan Muara Bengkal.
- Andri Mansjah Djaprie, Suggestions for the Increase of Cooperatives in Rural Society in Teluk Bajur/Berau.
- Jachman, Transmigration and Development in Rural Society in Ketjamatan Palaran.
- Saad Naim, The Region of the Upper Mahakam that will become a Kabupaten.
- Salehuddin Ba'bud, Government Policies of Kotamadya Balikpapan Encompassing Economics and Development.
- Soeminem Sanlias, The Influence of Water Transportation on Economic and Social Development in Ketjamatan Tarakan.
- S. Muhammad Jahja, Several Problems of Autonomous Activity in Region TK II Pasir.
- Abdul Hamid, The Importance of Cooperatives in the Rural Society of Kabupaten Berau.
- Asran B., Concerning Several Aspects of Regional Government, Kabupaten Pasir.
- 1968-1969
- S. Abu Bakar Bá'boed, History of the Development of the Kingdom of Kutai.
- Asan H. S., The Role of Education in the Development Plan of Kabupaten Pasir.
- P. I. Soekirman, The Utilization of City Property in the Development of Samarinda.
- Siti Chazinah S., The Construction of the Market in Kota Madya Samarinda at Present and in the Future.
- Zainal Abidin Ajung, The Position and Role at Ketjamatan Tarakan as a Part of Kabupaten Bulongan.
- Anang Djunal Dj., The Influence of Border Crossing on the Social Life and Economy of Ketjamatan Nunukan Society.
- Aspul Anwar Badrun, Efforts to Improve the Work Efficiency of Ketjamatan Governments in Kotamadya Balikpapan.
- Pangeran Silvanus Ukung, Efforts Towards the Creation and Development of Village Government in Kotamadya Samarinda.
- Muhammad A., Several Efforts to Increase the Working Efficiency of the Bupati's Office of Kabupaten Pasir.

- Idris Seman, Completing the Organization and Equipment of Ketjamatan Muara Antjalong, Kabupaten Kutai.
- Zainal Abidin Bansir, Several Efforts to Overcome the Difficulti of Increasing Farm Production in Ketjamatan Tandjiug patas.
- Liah Hong Djeng, Modang Society and the Influence of Custom.
- Ngatiman Kasmu, Some Efforts to Overcome the Difficulties Faced By the Waterworks of Kotamadya Balikpapan.
- Mashud Asfiany B., The Meaning and Role of the Village in Region Government, Kotamadya Samarinda.
- Ishak Karim, Efforts to Improve the Existence and Subsistence of the Modang Dayaks in Ketjamatan Nuara Wahau.
- M. Alwi Mansjur, Community Development in an Uma Tukung Village in Ketjamatan Tabung.
- A. Imbran, Efforts to Improve the Life of the Tundjuig Dayak in Berambai Village, Ketjamatan Kenshan.
- Johanis Ding, Efforts to Improve the Social and Economic Situati of the Ga-ay People at Long Buang Village, Ketjamatan.
- A. S. Sjahiel Anwar, Agriculture in the Plan to Improve the Standard of Living of Village Society in Ketjamatan Loa Djanan.
- N. Arie Sitaro, Ketjanatan Bontang and Its Internal Resources for Development.
- Bambang Suantig Sekar, Action to Improve the Standard of Living of Pasir Adang Society in Ketjamatan Long Ikis Kabupaten Pasir.
- Darsono Ribut, The Role of Waru Region Transmigration as an Important Element in Increasing Development in Kabupaten Pasir.
- Muchdar Amin, The Role of Transmigration in the Development Plan of Ketjamatan Barong Tongkok.
- Mohammad Elham, Efforts to Increase the Activity of the Ketjamatan Tabang Government.
- Adji Sjarifah Madjenah, Increasing the Effectiveness of Fisheri to Form a Major Resource for Kabupaten Pasi
- Sofjan Husin, The Role of Kampung Air Putih in the Development of Kotamadya Samarinda.
- Noordjanah, The Function and Role of the Planning Committee and Development Supervision in Kabupaten Kulai.
- Machmudsjah Hutasaat, The Increase of Fisheries (and Sea Produc as a Road to Development in Kabupaten Bulongan.

- P. Pilipus Gaing, The Role of Border Crossing in all Aspects of Community Life in Ketjamatan Krajan.
- Madjuni M., The Influence of Party Politics on Regional Government, Kabupaten Beran.
- M. Bakri Sjahrani, Efforts to Improve the Community Life of the Tundjung Dajaks in Ketjamatan Barong Tongkok.
- Hanafiah D., The Regional Government, Katomadya Samarinda in Facing the Problems of Education.
- Abdullah Sani Usman, Improving Financial Administration in the Regional Government Kabupaten Pasir.
- Sjahdan Achmad, The Implementation of a System of Financial Bookkeeping in Kabupaten Keetzi.
- Imalhand Pandi, The Influence of Benua Bajak, Tandjuig Isiy Community Customs and Traditions on their Daily Life in Ketjanamtan Danau Djempang Kabupaten Kutai.
- M. Alie Sindja, The Role of Education in the Development Plan of Kabupaten Bulongan.
- Fadlansjah Kadir, Problems Surrounding Moving the Center of Government of Kabupaten Bulongan from Taudjungselor or Karakan.
- Abd. Muin Alie, Agricultural Development in Ketjamatan Aggana.
- Surya Atmadja, Several Possible Ways to Increase Income in Kabupaten Pasir.
- Achmad Djunaid, Efforts to Improve Community Life in Ketjanatan Malinau, Kabupaten Bulongan.
- Noormansjah, Improving Farm Production in the Community Development Plan of Ketjamatan Balikpapan Seberang.
- Henry Edom, The Influence of Custom in Impeding Development Among the Keujah Dajaks, Kabupaten Bulongan.
- Achmad Sjarifuddin, The Question of Population in the Development Effort, Ketjamatan Pasir Belengkong.
- Bilhakki Opo, The Regional Government of Kabupaten Pasir in Facing up to Educational Development in Kabupaten Pasir.
- Hamsury Rachmad, The Problem of Implementing Land Reform in Kotamadya Samarinda.
- Adji Nazuar Effendie, Efforts to Increase the Production of Inland Fisheries in Ketjanatan Muara Muntai.

- Iskandar Zulkarnain, The Potential of Forestry for the Developer of Kabupaten Kutai.
- Abd. Galib Aziz, The Role of Rural Community Development at Present and in the Future in Ketjamatan Muara Badak, Kabupaten Keelai.
- Mansjur Natsir, The Question of Food Supply in Kotamadya Samarinda and Connections with Ketjamatan Palaran.
- 1969-1970
- Nehemja Wantja, Spirit Mediums and Abstinence in the Beliefs of the Benua' of Ketjamatan Damai Along with the Influence of Social Development.
- Hamidin, Efforts to Overcome Problems of Population Migration in the Tundjung Uplands.
- Abd. Kadir H. A. K., Efforts Toward Improvement of the Life of Workers at Samarinda Harbor.
- Achmad Murni, The Role of Regional (Ipeda) Contributions in the Development of Kotamadya Samarinda.
- Djaprie S., The Influence of the Samarinda Port Administration on the Development of Kotamadya Samarinda.
- Salasiah, Efforts to Improve the Health of the Populace in Kotamadya Samarinda.
- Noor Alamsjah, The Sembodja Reservoir Construction Project and Its Role in Future Development.
- Muhammad Lisi, State Enterprise Coal Mines, Mahakam Unit.
- Tabranie, Several Construction and Rural Development Efforts in Kotamadya Samarinda.
- Sjamsuddin Usman, Efforts to Improve the System of Co-operative in Kotamadya Samarinda.
- Masmar, Several Efforts to Increase Food Production in Ketjamata Long Iram.
- Johanis Achmuddin, The Role of Education in the Development Plan of Kabupaten Kutai.
- Muhammadsjah Nasrie, Several Construction and Village-Developer Efforts Along Sungai Karang Mumus in Ketjamatan Samarinda Ilir.
- Zamanie Basrie, Changing the Lamin System Towards Healthful Housing in Ketjamatan Muara Wahau, Kabupaten Kutai.
- Abdullah Biduri, The Influence of the Migration of Apo Kajan Dayaks to Ketjamatan Muara Wahau Kabupaten Kutai.

- Sammy Ridwan, The Results of Transmigration Development Efforts in the Tundjung Highlands, Kabupaten Kutai.
- Bachtiar, The Influence of Sea and Land Communications on Social and Economic Development in Kabupaten Pasir.
- Damanhuri, The Influence of Adat on Development in Ketjamatan Pasir Belengkong, Kabupaten Pasir.
- Djumar Suwito, The Meaning and Role of the Village in Rural Social Development in Ketjamatan Sangaz-Dalam.
- Moerad Sjamsuddin, The Influence of Forest Control, Especially Logging, on Social Life and Economics in Ketjamatan Bontang.
- Sutapan Parman, The Influence of the Lack of Governmental Agencies on the Daily Administration of Daerah Kotamadya, Balikpapan.
- Nicodemus Duit, Efforts Towards Improving the Standard of Living of the Dayaks of Bentian Besar, Kabupaten Kutai.
- Soebli Hamid, The Influences Leading to the Exploitation of Timber in Ketjamatan Long Iram for Local Rural Community Development.
- J. A. Ledjau, Customary Law Concerning Marriage Among the Tundjung People in Ketjamatan Melak and Barong Tongkok and Its Function in Ketjamatan Government.
- Sjarwani Sjukur, The Role of Education in the Development Plan of Kabupaten Berau.
- M. Aliansjah Arsjad, The Influence of Custom and Tradition on Livelihood and Subsistence in the Village of Sungai Babanir in Ketjamatan Sambahung, Kabupaten Berau.
- Salbiningsih, Efforts to Improve Livelihood and Subsistence in Ketjamatan Palaran di Kotamadya Samarinda.
- Parier Onesimus Singal, Efforts to Improve the Standard of Living of the Brusu Dayak in Ketjamatan Berau.
- Andi Achmad, The Influence of Forest Exploitation on Subsistence and Social Life in Ketjamatan Sesajap.
- M. Husaini Sanoesi, The Advantages and Disadvantages of the Kersik Luai Natural Preserve and Surrounding Areas in Ketjamatan Barong Tongkok, Kabupaten Kutai, Becoming an Object of Tourism in the Future.

- M. Zaimi Sabran, The Influence of Custom and Traditions on Community Life of the Bano People in Ketjamatan Malinau Kabupaten Bulongan.
- M. Saleh Basrie, Outlines of Policy in the Regional Government of Kotamadya Balikpapan.
- Aseng Gusti Nuch, Rural Community Development in Sembakung, Kabupaten Bulongan.
- Henoch Merang Iban, The Influence of Custom on Development Among the Dayak of the Apo Kayan, Kabupaten Bulong.
- Marcus Sinau, Efforts to Improve the Standard of Living of the Punan of Ketjamatan Malinau, Kabupaten Bulongan.
- Anang Djamal Dj., The Influence of Border Crossing on the Social Life and Economics of Ketjamatan NunKan.

In summary, these are valuable sources of data and are available in Jakarta and in the provincial capitals. Anyone preparing to work in an area served by an APDN would be well advised to check over this data for basic information and maps.

SOME PRELIMINARY NOTES ON SABAH CORAL REEFS

Paul G. Morris
Chelsea College, University of London

Although there is a considerable literature on coral reefs of the Indonesian archipelago no information is available on the occurrence, distribution and ecology of reefs in Eastern Malaysia. This note gives some preliminary observations on the modern and early Quaternary reefs of Sabah and in particular those occurring in the neighborhood of Semporna in eastern Sabah based on a short reconnaissance survey in late June and July of this year. I would like to record my appreciation of the enthusiastic support given to me by the officers of the Geological Survey Department in Kota Kinabalu, Sabah, and my grateful thanks are also due to Frederick Labunda for his company and assistance in the field.

Molengraaff (1930:65) remarked on the relative absence of coral reefs along the coasts of Borneo and on the lack of information given on the hydrographic charts. These remarks presumably related to what was then Dutch Borneo. Examination of hydrographic charts for the Sabah area indicates extensive reef development along the east and north coasts with less extensive developments along the western coast south-westwards to Labuan Island. Along the coast of Sarawak and also in Brunei Bay there is relatively little coral growth although some off-shore patch reefs do exist. Most of the reefs of Sabah are fringing reefs; atolls are relatively uncommon while barrier reefs seem to be developing most extensively in the area south of Semporna and some 15 kilometres off-shore. A smaller barrier reef is also developing north and north-west of Pulau Gaya lying to the north-east of Semporna.

Raised Reefs

Extensive raised reefs occur in the southern part of Darvel Bay, notably in the vicinity of Semporna (Kirk 1962:153). Pulau Bum Bum which lies some two kilometres east of Semporna is also an area of raised reef but exposure is poor because of a dense cover of vegetation. Similarly, patches of raised reef form some of the outlying islands north of Semporna. Some of these islands, for instance Larapan and Selangan, consist solely of raised reef limestone. Pulau Silawa* however, consists of an apron of raised reef around an original small granitic boss. Similarly, the reef limestones of Pulau Pababag have been developed around a small islet of hypersthene andesite. In the Semporna area subsequent uplift has resulted in the elevation of the reefs to their present height of about 30 feet above sea level.

Exposure of the raised reef in the Semporna area is now poor and the lateral extent of the raised reefs north and north-west of Semporna may well be greater than indicated by Kirk in his geological map of the Semporna region. Semporna itself is built directly on the limestone surface which is slightly undulating and probably the result of erosion after uplift. Fragments of various species of massive corals are very common over this surface but because of the current practice of importing coral for building the true origin of these fragments is never clear. The cliff-line is now only poorly exposed because of the development of settlements along the shore and the dumping of brush-wood and other debris over the cliffs. Examination of the accessible parts of the cliff-line shows the limestone to be light brown on the weathered surfaces but white to pale buff on freshly exposed surfaces. Cavernous weathering is a feature of parts of the cliff but more particularly of fallen blocks lying on a wave-cut platform of old reef limestone. Such corals as do occur are found in small patches of in situ massive colonies including species of Porites and ? Leptastrea. More rarely some colonies show evidence of slight disturbance while broken Acropora sp. of "stag's-horn" type occurs, for instance, in the neighborhood of the small wooden landing stage close to Semporna hospital. Kirk (1962, Pl. 36) figured well preserved coral colonies occurring in the raised reef of Selangan island. Fragmentary and generally indeterminate bivalves also occur scattered throughout the limestones.

The general aspect of the limestones is reminiscent of the area immediately west of Pulau Larapan where relatively small patches of coral are developing and are separated by extensive patches of coral sand and where patches or mats of shattered "stag's-horn" type Acropora occur.

Evidence of former strand-lines is not clearly seen in the cliffs of the Semporna area nor is there any clear evidence

* On the hydrographic chart Pulau Silawa is indicated as a very small island at the north-eastern extremity of Pulau Bait. The latter island appears on Kirk's geological map (1962) as Pulau Silawa. Since Kampong Silawa lies mainly on the larger island I propose to follow Kirk's usage.

of any break in the vertical succession of the reef although a very irregular break can sometimes be detected with difficulty.

Taira and Hashimoto (1971) in a short paper on the raised coral limestones of the Semporna area give the results of radio-Carbon dating of samples collected from a small islet 2.5 kms. north-west of Semporna. C14 ages for these samples range from 36,000 ± 2,400 yrs. B.P. for the lower level to 33,000 ± 1,650 yrs. B.P. for the middle of the upper level of the limestones. Samples from the middle part of the section gave somewhat anomalous dates.

Much smaller outcrops of raised reefs have also been recorded by Wilson (1964:74) from Pulau Burong off the south coast of Labuan Island. Much of this limestone has now been quarried away.

Modern Reefs

Observations on modern reefs and collection of coral faunas were begun at three main points:

i. Semporna shore-line north of the hospital.

The hydrographic chart suggests the presence of coral along the margin of the flats in the vicinity of Semporna. Traverses across the flats to the deep-water channel confirm that coral is present but only to the extent of a few metres close to the channel edge. Collection and examination of faunas along this line has not yet been attempted.

The area of shallow water north of Semporna includes only small patches of hard ground consisting of an eroded platform of coral. In these areas, which are mostly close to the shore-line very occasional dead in situ cerioid colonial corals occur but none reach a diameter greater than 6 cms. Such corals as do occur are not markedly abraded but all are heavily iron-stained and sometimes partially encrusted with calcareous algae. The remainder of this shallow water area has a bottom of coarse grained terrigenous sediment characterized by a remarkable abundance of holothurians, asteroids and ophiuroids and with numerous sponges at those points where only a few centimetres of sediment cover the wave-cut platform.

Reasons for the death of the coral fauna along this part of the coast are not clear. Pollution from neighboring kampongs may be the cause, but I think a more likely explanation is the proximity of mobile sediment, which may have been thrown over the developing coral sufficiently long to cause death. The proximity of the mangrove swamps with the production of abundant organic debris presumably accounts for the prolific echinoderm fauna.

ii. Pulau Larapan.

Extensive fringing reefs occur around the islands of Silawa and Larapan and the western part of the Larapan fringing reef was chosen for examination mainly because of relatively easy access. The reef on the western side of Pulau Larapan extends about

one kilometre seaward and about three kilometres in a north-south direction. Sampling was carried out northwards from a point about one kilometre north of a long spit.

Although the Larapan reefs are extensive coral development consists of small patches often only a few metres in lateral extent and separated by more extensive areas of coral sand sometimes with mats of broken "stag's-horn" *Acropora*. The reef is not exposed at low tide but is covered to a depth of one to two metres: the greatest development of coral and its associated faunas occurs in a narrow belt 30-40 metres wide on the outer edge of the reef. A fairly representative but probably incomplete collection of corals has been obtained from this area although sampling was restricted to the reef flat. Many additions to the faunal list will almost certainly be made when deeper-water sampling is undertaken during subsequent visits. The coral fauna of the reef-flat is characterized by an abundance of *Acropora* both as individuals and species. Other species are much less abundant and are often only represented by a few individuals or colonies. For instance, *Fungia* spp. are uncommon here but are extremely abundant on at least one of the reefs off-shore from Kota Kinabalu on the western coast of Sabah.

iii. Pulau Sabangkat.

This island lies at the south-western corner of an L-shaped atoll the dimensions of which are approximately 9 kilometres in a north-south direction and 7 kilometres in an east-west direction. Only one other island, Pulau Selakan, lies on the edge of the atoll. Kirk (1962) indicates that both islands are of raised coral limestone. The hydrographic chart gives no information as to depth of the lagoon.

The shape of the Sabangkat atoll is unusual. Umbgrove (1947:749) suggested that current action is largely responsible for the development of the parallel reefs of the Siboetoe group lying at the south-western end of the Sulu archipelago. A similar though not so extensive development of parallel reefs occurs still further south-west between the Siboetoe group and Pulau Bum Bum. While current action may be partly responsible for the L-shape of the Sabangkat atoll it is also likely that the form is closely related to the submarine geology of the area. For instance, Pulau Gaya lying just east of the Sabangkat atoll represents the northern and eastern rim of an old volcanic crater. The trace of the southern and western parts of the rim is indicated by the development of coral but submarine extensions of this volcano may also occur in the vicinity of the Sabangkat atoll.

Sabangkat atoll consists of a broad, continuous reef flat composed of coral sand and with very small patches of coral. The main development of coral occurs over a zone about 50 metres wide on the outer margin of the reef. Active coral growth also occurs on the inner margin of the atoll. As my visits did not coincide with the lowest tides the extent to which the reef flat becomes exposed is uncertain; low water during my visits allowed easy wading almost to the reef edge.

The coral fauna of Sabangkat atoll is much more varied than that of the Larapan reef. Most of the species collected from

near Pulau Larapan were also observed on Sabangkat atoll and an additional seventeen species were collected from the latter. Despite this it is unlikely that a complete fauna has been collected from the Sabangkat reef flat and in addition faunas of the outer reef front and of the lagoon still require examination. There seems to be little or no evidence of coral zonation on the reef flats of either Sabangkat atoll or of Pulau Larapan, perhaps because the coral is confined to a very narrow belt and because water depths are fairly uniform. Similarly, the development of an algal ridge which is so characteristic of reefs in some other parts of the Pacific is completely lacking in any of the Sabah reefs examined so far.

Identification of corals collected from each of the areas referred to above is still in progress and a full list of species will be presented later.

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FIELD RESEARCH ON THE HORSFIELD'S TARSIER (*TARSIUS BANCANUS*) AT SARAWAK MUSEUM

Carsten Niemitz

From November 1971 to May 1973 field research work on *Tarsius bancanus borneanus* (Horsfield) was conducted in Sarawak. This was a project of Dr. H. Sprankel (Professor of neuropathology) and Mr. Carsten Niemitz (zoologist) both at Justus-Liebig-University, Giessen, West Germany. The author's work was financed by the German Research Society, but inestimable help was given by Sarawakian institutions especially by the Sarawak Museum, by the Forest Department (Jabatan Hutan) in Kuching and also by private persons.

The ecological, behavioral and biometric data will be evaluated at "Giessen Calculating Centre." So far few results can be given:

One couple of tarsiers possibly accompanied by a young inhabits an area of roughly between 7,000 square meters and 10,000 square meters. So a population of about 300 tarsiers per square mile can be calculated. These figures originate from investigations in secondary jungle. In primary jungle, the area needed for such tree tarsiers is vaster, but definite figures cannot yet be given for the latter habitat. However it can be assumed from several indications that not less than 100 individuals of this

species inhabit one square mile of primary jungle. This concerns areas in Sarawak, where tarsiers have been found, e.g. Ulu Baram, Ulu Tinjar, on Rejang, in Sadong area, and around Kuching.

No tarsiers have been found in Lundu-Sematan area. As far as the author knows they lack in coastal areas around Mukah and Miri. No data were available from Simanang and Bintulu. It is yet rather probable that these furtive, nocturnal animals have been overlooked and are more abundant than one may think them to be.

Certainly against all former presumptions tarsiers are not rare animals in Sarawak. But all types of native traps are not suitable for catching this animal, and whenever a tarsier is caught, it is done all most in all cases by hand. Nevertheless I consider *tarsius* as an endangered species. As extremely territorial animals they try to stick to an area and do not migrate much. Their capability of escaping and searching for a new territory is not well developed as migration contradicts their nature. Thus the clearing of large areas of jungle must lead to a partial destruction of the population. Besides people tend to catch those animals they discover when clearing the forest.

In this connection it must be stated that tarsiers kept in captivity need very special care as they only accept living food, preferably insects, small birds, also chick-chacks (small geckoes) and sometimes small bats or a snake. As the provision of this food is sometimes difficult, and as they refuse to take any fruit or rice, they are in practically all cases bound to die within three days of captivity. People also tend to forget to give them water to drink which is even more often the actual cause of their death.

A third danger besides clearing and catching is poison. Tarsiers often penetrate plantations. Of course there is a greater probability that they catch and eat insects which are already handicapped by the effect of poison than to catch healthy ones. As some of those insecticides are not decomposable by nature, and are stored in the fatty tissues of mammals and of man, it can be assumed that such poisons are systematically concentrated in the bodies of the tarsiers. On this subject investigations on a few specimens are planned. But the mechanisms of those poisons in mammals is clear: in periods when the animal is unsuccessfully hunting and dependant on its fat storage, the poison is suddenly set free in the body in such a concentration that it probably kills the animal. If this happens to a female with a suckling, the poison in the mother's milk causes vomiting in the baby so that it will die of starvation even if the mother survives and carries on nursing it. The poisons concerned are chlorified carbon-hydrogene compounds such as D.D.T. and others. Since these compounds never leave the natural circuit they are causing damage infinitively. This is the reason why many countries have prohibited the sale of those insecticides.

Yet the species of tarsiers in Sarawak has a chance to survive as the number of national parks and forest reserves and the care for them is worthy of imitation. If, besides

this, merchants will start to offer more modern insect poisons, and if clearing of bigger areas of jungle are well organized under conservatory aspects, this interesting and strange primate will certainly not dwindle in foreseeable times.

A publication containing the results of the field study is in the state of preparation and will be issued in the Sarawak Museum Journal.

B R I E F C O M M U N I C A T I O N S

SNAKE BITE

From G. S. de Silva
Chief Game Warden, Forest Department, Sabah

I have read with interest Dr. Yushio Sawai's report "A Study of Snakebite in Sarawak" published in Volume 4, No. 1, of the Borneo Research Bulletin. Although snakebite appears to be common, very few people obtain specialized attention. Few case histories are therefore available for study. The following note may be of interest to anyone interested in the subject.

On 22nd November, 1965, at about 10 a.m. while in the forest 5 or 6 miles from Kampong Kiaw in the Ranau District, Sabah, the third finger of my right hand was bitten by a viper properly identified as *Trimerusurs popeorum*. The punctures were incised immediately and suction applied together with a tourniquet about 8 inches above the punctures. Apart from the pain, which commenced instantly, symptoms of giddiness and double vision developed within a few minutes. Swelling of the finger also commenced shortly after the bite and gradually spread up to the elbow. In the meantime, the tourniquet was removed and applied 4 or 5 inches above the elbow. Proper medical attention was only available at about 9 p.m. the same day at Kota Kinabalu. The swelling of the arm subsided gradually and completely disappeared within 10 days. However, it is interesting to note that 7 days later the finger and arm right up to the elbow again commenced to swell. The pain and swelling subsided 3 days later after medication. Paralytic symptoms, cellulitis and necrosis at the site were not observed.

NEWS FROM SABAH FORESTERS

From Liew That Chim
Forest Ecologist, Forest Department, Sabah

Mr. A. J. Hepburn, Senior Research Officer of the Forest Department, went on leave towards the end of July. After his leave he will be posted to the Chief Minister's Department to carry out a special duty in connection with the Land Capability study. Mr. Hepburn, a keen forester, has achieved a great deal in the fields of forest management and research. He engineered the formation of the Forest Research Branch. As a professional forester he deeply believes in sound forestry practice.

Mr. Liew That Chim (a holder of BSc. [Hons] [Forestry]), Ecologist of the Forest Department, has been enrolled in the

Master of Science Program, Department of Forestry, the Australian National University, Canberra as an external student. The topic of his thesis is "The Development of Silvicultural Policies for Dipterocarp Forest in Sabah." Dr. R. G. Florence of the Australian National University, and Mr. A. J. Hepburn of the Chief Minister's Department, Sabah, are his supervisors. The thesis is expected to be completed by 31st August, 1974.

Mr. Domingo Chai Nai Ping, a Forest Officer, returned from the University of New Brunswick with a BSc. Forestry and was posted to the Forest Research Branch as a Silviculturist recently.

Mr. P. F. Cockburn, Forest Botanist, has completed his Volume One of "Trees of Sabah" and this was sent for printing. The second Volume is well under way. The book covers approximately 250 important timber trees of Sabah other than members of Dipterocarpaceae.

MAMMALS OF BORNEO WHOSE SURVIVAL IS THREATENED

From G. N. Appell
Brandeis University

The Survival Service Commission of the International Union for the Conservation of Nature and Natural Resources is concerned with the problem of preventing the extinction of plants and animals. It also is involved in the preservation of viable wild populations of all species in their native habitats. As part of this program they periodically publish surveys of species threatened with extinction. The data included in these surveys are the distribution of the threatened species, the status of the wild populations, the status of their habitat, conservation measures in effect, conservation measures needed or planned, list of references, and an estimation of the degree to which the species is threatened with extinction. This material for mammals may be found in the Red Data Book Volume 1: Mammalia. However, I thought it might be useful to list here the mammals in Borneo threatened with extinction and summarize their status.

The Red Book classifies the status of threatened species as either Endangered, Vulnerable, Rare, or Out of Danger.

The category of Endangered indicates that the taxonomic group or entity is in danger of extinction, the survival of which is unlikely if the causal factors now at work continue operating. Vulnerable species are believed likely to move into the endangered category in the near future if the causal factors now at work continue operating. The category Rare refers to taxonomic groups with small world populations which are not at present endangered or vulnerable but which are nevertheless at risk of possible extinction. Out of Danger classification indicates that the taxa were formerly included in one of the above categories but are now considered relatively secure because effective conservation measures have been taken or the previous threat to their survival has been removed.

The species of mammals threatened with extinction in Borneo include the following:*

Pongo pygmaeus Orangutan

Endangered by the continuing elimination or alteration of its habitat and by selective killing of adult females to obtain live juveniles for the animal trade. Lowland forest habitats are now being rapidly eliminated or altered by mechanized agriculture and the timber industry. Adaptations or shifts of the species to sub-optimal habitats are slow. Extensive mechanical exploitation of forests followed by tree poisoning in habitat areas can therefore result in elimination of resident populations

Lariscus hosei Four-striped ground squirrel

Rare. This species is extremely rare within a circumscribed range. It is recorded only from the north and northwest of Borneo, and it is thinly distributed within this area. Life history and habitat requirements should be studied to determine the factors limiting its numbers and whether its survival is at risk.

Neofelis nebulosa Clouded leopard

Vulnerable. Judging from the infrequency of sightings and the reduction in the number of pelts brought to market its numbers appear to be severely reduced. The current status, range, food and habitat requirements need to be determined as a basis for its protection and management since the information on this species is unusually scanty.

Elaphus maximus Asian elephant

Vulnerable. Its long-term survival is uncertain. There has been a precipitous decline in numbers as deforestation and agriculture have reduced its habitat, and its prospects for survival are uncertain. Existing populations are restricted in remnant, isolated habitats. There appears little hope for maintaining wild populations outside protected areas.

Dugong dugon Dugong

Vulnerable. The dugong has been over-hunted and is seriously depleted throughout its range. In many areas it has virtually disappeared. Its habitat is restricted to warm, shallow coastal waters where it feeds on a variety of algae and grasses, and may rest in deeper water during the day. It has been heavily hunted for many years for its meat, oil, and hides.

* Lucas Chin in his article, "Protected Animals in Sarawak," Sarawak Museum J. 19:359-361, 1971, discusses the state of endangered animals in Sarawak and has listed those birds and animals which are on the government's protected list under the Wild Life Protection Ordinance.

In some areas where fishery development includes the use of large sea nets, the inadvertant destruction of dugongs may be inevitable. However, this species could, with proper management and enforcement, provide a local supply of meat. Therefore, since it provides a high quality food, protective measures should be enforced, and when local populations have been rebuilt, the harvest could be managed on a sustainable yield basis.

Didermocerus sumatrensis Sumatran rhinoceros

Endangered. This rhinoceros occurs in small isolated populations. Overhunting has reduced its populations to critically low levels, and its range continues to be restricted by logging operations and expanding human populations. It now occurs in Sabah, and it formerly ranged over Kalimantan, but its present status there is not known. Needham (1972:177) reports that in the areas hunted by the Penan, rhinoceros have become practically extinct within the lifetime of older men.

Bibliography: International Union for the Conservation of Nature and Natural Resources, 1972, Red Data Book Volume 1: Mammalia, Morges, Switzerland; International Union for the Conservation of Nature and Natural Resources, 1973, Mammals Listed in the Red Data Book Volume 1, Special Supplement to the IUCN Bulletin 4 (4) April; Needham, Rodney, 1972, Penan, in Frank M. LeBar (editor and compiler), Ethnic Groups of Insular Southeast Asia, Volume 1: Indonesia, Anadaman Islands and Madagascar, New Haven, Human Relations Area Files Press.

RECENT RESEARCH PROJECTS SUPPORTED BY THE
AGRICULTURAL DEVELOPMENT COUNCIL

From G. N. Appell
Brandeis University

The Agricultural Development Council in its Core Program supports research activities undertaken by Asian social scientists affiliated with government agencies or Asian universities. In the recent issue of its "Research and Training Network Newsletter" (June 1973), the Council listed two research projects it has supported that may be of interest to Bornean researchers.

The first project is a study on "The Economic Geography of Tapioca in Malaysia," which is being undertaken under the supervision of the Department of Geography, University of Malaysia. The major focus of this study is on the role of tapioca in Malaysian agriculture and its uses and prospects in the Malaysian economy. The analysis will include geographic distribution, cultivation techniques, processing, economics of production, marketing, and export potential.

The second project is a study of "Land and Peasants in Malaysia" undertaken by the Department of Anthropology and

Sociology of the University of Malaysia. This project is a socio-economic investigation of selected rural communities in West Malaysia. The study will focus on social structure, aspects of land ownership and tenure relationships, changing features of agricultural production, and the existing patterns of rural employment.

NEWS AND ANNOUNCEMENTS

INSTITUTE OF POPULATION STUDIES, GADJAH MADA

UNIVERSITY, INDONESIA OPENS

The Gadjah Mada Population Institute was opened on the 1st of April 1973 under the directorship of Dr. Masri Singarimbun. Its aims are to gain an improved understanding of Indonesia's population problems and assist in their solutions. These objectives will be pursued through an integrated program of research, education, and extension. The Institute is an interdisciplinary center with the status of a faculty whose director is directly responsible to the Rector (President) of the University. The staff are drawn from various university faculties and serve on a joint-appointment basis.

The Institute is not directly involved in teaching, but some staff members offer courses in population studies in other faculties. In its early stages, training activities will emphasize the provision of research training for students engaged in thesis writing.

Research activities and plans of the Institute include both projects undertaken cooperatively by the Institute's staff and small projects reflecting the interests of individual staff members.

The current activities of the Institute include: (1) Preparation for publication by the Institute of The Population of Indonesia, 1930-72, a Bibliography by Masri Singarimbun; (2) further analysis of data on fertility and family planning collected in Sriharjo in 1970 and preparation of a report discussing the major findings of the survey; (3) planning of a resurvey of the Sriharjo sample.

Projects planned for the next few years include: (1) an intensive longitudinal survey of social, cultural, and economic factors in social and demographic change. It is hoped that the project will make a contribution to the limited knowledge of social aspects of fertility in Java and also have important policy implications for improvement of government programs in the field of population; (2) a detailed comparative study of the results of the 1961 and 1971 censuses in Jogjakarta. The study aims at investigating the quality of census results in the region and the immediate demographic causes of the apparently very low population growth rate in Jogjakarta; (3) a detailed evaluation of the present completeness of vital registration in different provinces. The project aims at finding out the

variability in the quality of registration in different provinces with the intention of suggesting means of improving the usefulness of these statistics. This list is not necessarily exhaustive, and the contents, scope, and time of particular projects may be revised. In addition the Institute may offer its facilities to investigators not formally attached to it.

In addition, other activities of the Institute include the development of a resource materials collection of population materials at the central library of Gadjah Mada University, and it intends to build up a data bank with emphasis on population work in Indonesia and neighboring countries. Over the next five years the Institute expects to accumulate a substantial collection of catalogued items, reprints, mimeographed materials, and back issues of the major journals on population.

The address of the Institute is: Institute of Population Studies, Gadjah Mada University, Bulaksumur HS, Yogyakarta, Indonesia.

FUNDS NEEDED FOR LSE LIBRARY

From Otto Doering
Purdue University

Many of us with interests in Borneo received a portion of our education or at least used the facilities of the London School of Economics. The school is in the process of attempting to purchase an adjacent building to properly house the library collection. The campaign has already raised most of the money required, but is still short enough to make the purchase difficult. Contributions of any size would be deeply appreciated. In the U.S. they can be sent to: American Friends of the LSE, P. O. Box 2033, Princeton, New Jersey 08540.

Such contributions will be tax deductible. For those outside the United States contributions can be sent directly to the school for the library fund.

WORKING BIBLIOGRAPHY ON BORNEO ARCHAEOLOGY 1848-1966 AVAILABLE

Richard Pearson, Wei-lan Wu, Marion Noakes, and Laine Ruus have recently prepared a Working Bibliography on Borneo Archaeology 1848-1966. The major emphasis of this bibliography is on the later periods, of what might be called protohistory. The bibliography was begun as part of a project to study the impact of China on Southeast Asia through archaeology. References primarily to early prehistoric sites have not been included, and unverified items are indicated. Copies of the Bibliography are available from Richard Pearson, Department of Anthropology and Sociology, the University of British Columbia, Vancouver 8, Canada.

UNIVERSITY OF CAMBRIDGE EVANS FELLOWSHIPS

AVAILABLE FOR RESEARCH IN BORNEO

A graduate of any University is eligible to apply for an Evans Fellowship, provided that he intends to engage in research in ethnology, ethnography, or archaeology in relation to Borneo, the Malay Peninsula, Singapore, Thailand, the Philippines, Vietnam, Cambodia, Laos, Indonesia, and Burma (south of Shwebo and east of the Irrawaddy). Preference will be given to applications from persons who intend to engage in research in relation to Borneo, the Malay Peninsula, Singapore and Thailand.

Further information may be obtained from the Registry, The Old Schools, Cambridge, England.

B O R N E O N E W S

Regional News

JOHN O. SUTTER, of the Asia Foundation, writes that after supporting educational projects in Borneo (first in Sarawak and Sabah; more recently in West, South, and East Kalimantan) for ten of the past twelve years he is heading homewards as of October, 1973. He will be back at work at the San Francisco headquarters (550 Kearney Street), of the Asia Foundation in January, 1974.

LINDA KIMBALL will be lecturing at the School of Comparative Social Sciences, Universiti Sains Malaysia, Minden, Penang, Malaysia, for the academic year 1973-74.

JAMES DEEGAN will be lecturing at the School of Comparative Social Sciences, Universiti Sains Malaysia, Minden, Penang, Malaysia, for the academic year 1973-74.

CLIFFORD A. SATHER will be lecturing at the School of Comparative Social Sciences, Universiti Sains Malaysia, Minden, Penang, Malaysia, for the academic year 1973-74.

TOM HARRISSON writes that he has prepared two big papers on Borneo prehistory one of which he presented at the conference in Chicago at the end of August, and he says that he is developing some fairly new ideas about what happened in the early stone age in the Borneo region. He is also working on a big book on air raids in World War Two based on the Mass-Observation Archives at the University of Sussex of which he is Director.

LORD MEDWAY writes that he is in the process of preparing a revised edition of his Mammals of Borneo which will be published by the MBRAS.

FREDERICK L. DUNN writes that last summer he was in Sweden for a workshop on schistosomiasis, from which he left for Ethiopia for a couple of weeks for further work on schistosomiasis, and then he went on to Kuala Lumpur where he will be located for the next year or two. His new address is: Institute for Medical Research, University of California ICMR, Kuala Lumpur 02-14, Malaysia.

CRAIG A. LOCKARD writes that he will be an Assistant Professor of History at State University of New York--Buffalo effective July 1. His address after that date will be in care of the Department of History.

JAMES WARREN writes that he has been working in the archives in Spain and London, and he left there for the Netherlands where he continued his research. From Holland he went to Manila where he was affiliated with the Institute of Philippine Culture, and from there he consulted archival materials in Singapore and Jakarta. He plans to return to Canberra by February 1974. As a result of his investigations, the title of his dissertation has been changed to "Slave-Trade-Raid: The Socioeconomic Patterns of the Sulu Zone 1770-1900." He can be contacted through the Department of Pacific History, The Research School of Pacific Studies, the Australian National University, Box 4 P.O., Canberra A.C.T. 2600, Australia.

BARBARA HARRISSON has been awarded an honorary Doctorate of Science by Tulane University, New Orleans, in recognition of her efforts to promote the conservation of primates. She has also received a conservation award from the American Motors Company.

Sarawak News

HERBERT AND PATRICIA WHITTIER returned to Borneo in September to continue research among the Lepo Tau Kenyah. In 1970-71, they worked in the Apo-Keyan area of East Kalimantan. On this trip they will be working in the upper Baram, Fourth Division, of Sarawak. According to Lepo Tau oral history, the Lepo Tau of the Baram split from Lepo Tau of the Apo Kayan approximately eight generations ago. Herbert will continue research on Lepo Tau social organization, and Patricia will concentrate on ritual language. After a year of research in the Baram, the Whittiers plan to revisit a coastal village in East Kalimantan which is the site of recent Lepo Tau migration from the Apo Kayan. In 1971 there were 25 families of Apo Kayan Lepo Tau in the coastal village and recent information from there indicates that at least 200 more individuals have migrated in from the Apo Kayan. Herbert Whittier is Adjunct Research Associate, Department of Anthropology and Asian Studies Center, Michigan State University, and Patricia Whittier is a Fulbright Predoctoral Fellow. Their address while in Sarawak will be c/o the Sarawak Museum.

ZAINAL KLING, Centre for South-east Asian Studies, Hull University, has been making a study of a Sarawak Malay community.

PETER METCALF, of Harvard University, has been working among a Berawan community in the Baram River region.

CHRISTINE PADOCH writes that she is working in an Iban community in the Second District and her address is as follows: (Nanga Jela), c/o District Officer, Lubok Antu, Sarawak, Malaysia.

RICHARD C. FIDLER completed his dissertation entitled Kanowit: An Overseas Chinese Community in Borneo and received his Ph.D. in May from the University of Pennsylvania. He is currently at the Department of Anthropology, Northern Arizona University, Flagstaff, Arizona 86001, U.S.A. This November at the meetings of the American Anthropological Association he will be giving a paper entitled "Changes in Chinese Kinship: South China and Borneo."

Kalimantan News

MICHAEL R. DOVE, Department of Anthropology, Stanford University, Stanford, California 94305, U.S.A., writes that he is hoping to conduct research among Iban in the headwaters of the Kapuas River in Kalimantan, with attention to augury. He would like to contact anyone having information on prospects for research in this area.

PHILIP GOLDMAN, Gallery 43, 28 Davies Street, London W1, England, writes that his interests have recently focused on Kalimantan due to the quantity of sculpture in the form of hampatongs which have recently made their exit. He notes that there appears to be a lack of any information with regard to this material other than the classic works by Dutch, Norwegian and German researchers, which are over fifty years old. The recent catalog of the Delft Museum does not appear to add any new material but for the most part repeats information given in the early books. He is also attempting to write a small introduction to a catalog of material obtained in Indonesia. Unfortunately, the material has no precise provenance, but probably derives from neglected and deserted kampongs along the Mahakam and Barito Rivers.

BIRUTÉ GALDIKAS-BRINDAMOUR, Orangutan Project, P. O. Box 21, Pangkalanbun, Kalimantan Tengah, Indonesia, writes that she is a doctoral candidate in the Department of Anthropology, at the University of California at Los Angeles, and the research on the ecology and behavior of the wild orangutan of the Tanjung Puting Reserve is for the purpose of her dissertation. She has been in the field since the beginning of November 1971.

VICTOR KING will be returning from west Kalimantan in September to the Department of Social Anthropology, University of Hull, Hull, England, where he will be a lecturer. During his research in west Kalimantan he has collected substantial data on the Embaloh social structure, including the kinship

systems, class systems, and political systems. He has also collected data on the methods of Embaloh dry rice cultivation and the associated padi cult which differs somewhat from that of the Iban. In addition to data on the Embaloh language, he has also collected data on cursing terms, death rites, which include material on the "journey of death" and the building of death houses (kulambu). He also has data on traditional healing practices, concepts of sickness and disease, bird omenism, longhouse structure, and the rites associated with the building of a new longhouse, traditional history, and relations with other groups, particularly the Iban. In the March issue of the Sarawak Gazette he has a short article on the Embaloh relations with the Iban. He further writes that his wife has taken interest in traditional handicrafts, and has selected information on these. During the final two months of his research he plans to visit some Taman groups, close relatives to the Embaloh. King also writes that he has been preparing a bibliography on west Kalimantan, including geography, economics, sociology, history, anthropology, etc., and he would deeply appreciate it if any of the BRB readers have any items for this bibliography or any suggestions as to additional sources.

BOOK REVIEWS, ABSTRACTS
& BIBLIOGRAPHY

ABSTRACTS*

Social Organization and Symbols of Social Differentiation:
An Ethnographic Study of the Kenyah Dayak of East Kalimantan
(Borneo)

Herbert Lincoln Whittier (Ph.D. Michigan State University 1973)

The Kenyah Dayak of Kalimantan Timur (Borneo) are slash and burn agriculturalists with cognatic forms of social organization who live in over 100 multi-longhouse villages in Central Borneo. The over 40,000 Kenyah Dayak are subdivided into forty named subgroups. According to Leach, the class stratification known among many Borneo groups reaches its fullest expression among the Kenyah (1950:76). There is no modern ethnography of the Kenyah peoples with which to explore this stratification and its effects in social organization. The purpose of this work is two fold: 1) to provide an ethnographic sketch of one Kenyah subgroup, the Lepo Tau; and 2) with the ethnography as background, to examine the social organization and social stratification of these people through one of their social institutions, the ba', or baby carrier.

* Some of the abstracts printed here are from Dissertation Abstracts International, University Microfilms, Ann Arbor, Michigan 48106, U.S.A. Positive microfilms of the dissertations noted may be obtained for US\$4 and a xerographic copy may be purchased for US\$10. The BRB is greatly indebted to Frank J. Shulman, of the University of Michigan, who has provided the Editor with copies of the abstracts.

The field research on which this dissertation is based was carried out in East Kalimantan, Indonesia from May, 1970 through June, 1971. Two communities of Lepo Tau Kenyah were involved in the research: 1) Long Nawang, a multi-longhouse village in the interior (the Apo Kayan) and, 2) Mara Satu, a community of migrants from Long Nawang living a short distance from the coastal town and administrative center of Tandjungselor. Most of the data were gathered from participant-observation and from unstructured interviews. Additional data are from village censuses and from extensive genealogies.

The baby carrier (ba') which is prepared for every child in Kenyah society, in some cases carries a large symbol complex attached to it which demonstrates and validates the status of the individual carried therein. It also lends a spiritual protection to newborn infants in a dangerous period when soul loss is viewed as a primary reason for infant mortality. The symbols which are combined on the baby carrier are too numerous and valuable to be the property of any one individual and are borrowed from kinsmen. Thus the creation of each new ba' creates a network of exchange relations between kinsmen, most notably women, which adds to the unity of the village and especially to that of the upper class in Kenyah society. In most areas of life the elaborate symbol complex of the Kenyah is now disappearing, in part due to the influence of the Christian missionaries, yet in the context of the ba' the symbols remain in use. By examining the social history of the Lepo Tau and then exploring some aspects of their culture and social organization, we can posit some of the reasons for the elaboration of the ba' among the Lepo Tau.

The social and migration history of the Lepo Tau shows how they came to hold a unique position among other Kenyah groups in the Apo Kayan. First the followers of the Lepo Timai Kenyah, the Lepo Tau later, through a series of alliances with the Uma Djalan, the Uma Tukung, and the Uma Kulit Kenyah, rose to become a powerful group in the interior. This position was further validated by the Sultan of Kutei at the mouth of the Mahakam River, and then by the Dutch who eventually established a military installation in the largest Lepo Tau village, Long Nawang. The Lepo Tau and their leaders (paran) thus became the most powerful group in the Apo Kayan. The greater the social power, the greater the number of power symbols necessary to protect souls in transitional stages (e.g. birth and death) as well as to demonstrate and validate status. Starting in the early 1940's the Christian church exerted its influence, and as a result of the church and other factors, in 1970, we find over ninety per cent of the population of the Apo Kayan, adherents of Christianity. Christianity demanded abandoning most of the symbol complex used by the Lepo Tau to depict status, for these symbols are also bound into the religious system of the Kenyah peoples. The church and local government have stressed the equalitarian nature of man and emphasized mobility through achievement which has also had a negative effect on the hereditary symbols of power and status. In 1970, at the time of my study, most symbols were gone from everyday usage, but they remained on the ba' and on the caskets of upper class individuals. It is hypothesized and supported that these examples of retention and even elaboration of traditional symbols on the ba' is related to 1) a continuing need for the protection of the soul at transitional periods, and 2) more important, as an indication,

validation and demonstration of social position, and that 3) the continued usage of these symbols on the *ba'* provides a form of social unity through the network of *kĭn*smen involved in *ba'* symbol exchange.

The Southeast Asian Town in Historical Perspective: The Social History of Kuching, Malaysia, 1820-1970

Craig Alan Lockard (Ph.D. University of Wisconsin, Madison 1973)

One of the major processes in modern Southeast Asian history has been the development of ethnically heterogeneous towns and cities, yet little scholarly attention has been devoted to urban history. This study attempts to contribute to a better understanding of the Southeast Asian town by recounting the social history of an intermediate-sized urban center in Malaysia. The city selected was Kuching, the capital of Sarawak state and a settlement which grew under the auspices of European rule from a small Malay village to a multi-ethnic but predominantly Chinese city of 100,000. The study, drawn from both documentary and oral sources, traces the development of Kuching society from the pre-European village period (1820-1841) through the long rule of the Brooke white rajahs (1841-1941), the brief but important occupation by the Japanese (1941-1945), the transformation under the British crown colony authorities (1946-1963), and the period since the formation of Malaysia (1963). During this time a wide variety of ethnic groups settled in the town, established their own forms of social organization, and adapted to the growing urban environment.

In addition to such general topics as social structure, residential and occupational patterns, the changing ethnic balance, and social life, special attention is paid to certain aspects of Kuching's social history which allow comparisons with other urban centers in Southeast Asia. Among these topics are culture change and the formation of new groups, the role of indirect rule in the administration of an ethnically heterogeneous urban area, the function of Chinese speech or dialect groups, the structure of the Malay and Chinese communities, inter-ethnic relations, and the extent to which Kuching could be considered a socially and culturally plural society.

The social structure of Kuching during all phases of its history was a pluralistic one because the associations, schools, economic organizations and residential patterns which emerged were largely predicated on ethnic or sub-group membership. Major culture change involved the acculturation of a limited number of mission school-educated Chinese and Malays to a Western cultural orientation; there was little intermarriage or cultural exchange among the various non-European communities. But ethnic boundaries were never absolute, and the pluralistic institutional structure was modified by a number of integrating mechanisms. These included elite-level social clubs, Westernized individuals and groups who could act as social brokers, and an increasingly important integrated municipal political structure which operated in tandem with a modified form of

indirect rule. Intra-ethnic hostilities, such as rivalries between competing Chinese speech groups, focused attention on sub-group rather than inter-group conflict. Later these sub-group differences were translated into cross-ethnic political alliances with the development of political parties and directly-elected municipal government. There was little if any overt inter-ethnic violence in Kuching. Since ethnic interaction occurred in social and political as well as economic spheres, Kuching was never a classic plural society.

The concluding chapter places the Kuching data in broader perspective through the use of comparative material from other Southeast Asian urban centers. Many of the elements of social organization which characterized Kuching society were found to be widespread, but little correlation could be found between such processes as acculturation and inter-ethnic interaction on the one hand and inter-ethnic violence on the other.

Kanowit: An Overseas Chinese Community in Borneo

Richard Calvin Fidler (Ph.D. University of Pennsylvania 1973)

Kanowit is a bazaar, a market town, on the central Rejang River in Sarawak, a state of the Federation of Malaysia on the north-west coast of the island of Borneo. The population of Kanowit Bazaar in 1970-71 was 1,720. Residents of Chinese descent--Overseas Chinese--form the largest unit of the population, 72.7%. They are divided among seven different Chinese dialect groups, all originating in the South China provinces of Fukien and Kwangtung. The most populous of the seven is the Hokkien (35.5% of the town's population), followed by the Cantonese (15.5%) and the Foochow (14.6%). In addition to the Chinese residents, the population of Kanowit Bazaar includes Malays (18.1%), Iban natives (6.5%), and individuals representing a variety of Sarawak and European ethnic groups.

Kanowit describes the physical setting of the bazaar and its environment, with special reference to the communications network of river trade that supports Kanowit's economy, the role played by Chinese smallholder-farmers living along the riverbanks and Iban tribesmen in the interior valleys in the economic patterns of the bazaar, and the major cash crops--timber, rubber, and pepper--that pass through the shophouses of the town. The levels of social and political integration of Kanowit Bazaar within its district, division, and state are described. A brief history of the English government of the Brooke Raj is presented.

An analysis of Kanowit's population size and composition defines the concept of *bangsa* (race or ethnic group) as used in Sarawak, and describes the origins, indigenous and immigrant, of these groups, and their linguistic affiliations. Age pyramids and census data on birth rates demonstrate that the population of the bazaar is failing to grow as young men and women leave town to look for employment in the cities downriver. Maps of racial patterns of residence are also presented.

A brief description of the economic patterns of the bazaar and its entrepot trade highlights the role of the "towkay," the

Chinese shopkeeper and businessman, and his symbiotic relationships with the Iban families of the interior with whom he deals. Patterns of debt and credit are examined, and compared to similar data from Leigh (1964) and T'ien (1953). Ethnic specializations in occupation are examined and compared to T'ien's (1953) data from lower Sarawak, and the differences in the two sets of data are analyzed. Land ownership, plotted by ethnic group and by number of holdings, reveals that while land is in short supply, especially to the Chinese residents, it is not held by "land barons" nor dominated by one ethnic group.

A physical description of the town outlines several centers for multiracial activities--theatres, community centers, sports fields, and others--with special attention given to the schools. Chinese- and English-medium schools are compared, and the preference for the government-operated English schools is examined. The role of the secondary-level boarding school in the development of a multi-ethnic culture is shown to be a leading factor in culture change. Uniracial activities, such as the *Kapitan China* and the dialect-group associations, are also examined.

The variation in religious beliefs in Kanowit Bazaar is discussed, and the decline in folk religion and ancestor "worship" among the Chinese is described and analyzed. A calendar of religious festivities is presented, and a discussion of the four major holidays in the Sarawak annual cycle is used to examine the interrelationships of the various ethnic/religious groups.

A chapter on the Chinese family in Kanowit Bazaar begins with a summary of the data on family structure in South China, where the Kanowit Chinese emigrated. The corporate nature of the South China lineage groups is emphasized, and its interlocking relationship to land ownership, extended family households, and ancestor homage is highlighted, thus presenting data in contrast to the changing family patterns in Kanowit Bazaar. Extended patrilocal families, the "ideal" in South China, form only 7% of the households among Kanowit Chinese, while 74% of the Chinese households are neolocal "conjugal" units. Comparisons are made with Lang (1946) for Fukien Province and Gallin (1966) for Taiwan, and the motivations for these changes are discussed. The concomitant increase in ties of bilateral relationships among Kanowit families is presented, and the 60% of the families having such ties within the bazaar are plotted and analyzed. The influence of economic change on social structure is discussed, with reference to Murdock's (1949) thesis.

A brief summary of the literature on "plural societies," comparing their data with those from Kanowit Bazaar, concludes the dissertation. (Order No. 73-24,143, 361 pages)

Rural Settlement in Sarawak

Gale Dixon (Ph.D. University of Oregon 1972)

The major ethnic groups in the First Division of Sarawak, the Dayaks, the Malays, and the Chinese, have created, through

their diverse ways of using and occupying their environment, three easily identifiable and different cultural landscapes. These landscapes are analyzed through the features most evident on the land: land use, domestic architecture, and the dispersion, density and pattern of the dwellings.

In the First Division (the political unit at the western end of the Malaysian Borneo state of Sarawak, which is about the size of Puerto Rico or Cyprus) four different groups of Dayaks build their famous longhouses. These longhouses and the shifting cultivation of hill rice are dominant features of the Dayak landscape. The Moslem Malays, like the Dayaks, build their houses above the ground on stilts, but the Malay people always live in individual single family dwellings and their villages are commonly arranged in a linear pattern along a path or riverbank. The third major group, the Chinese, dominate the economic activity of Sarawak and many of them live in the cities and rural service centers, but a large number of Chinese are farming rubber and pepper; their farmhouses built firmly on the ground, not on stilts, and set in the middle of each holding of neatly tended gardens and groves add yet another dimension to the rural First Division scene.

Increased planting of cash crops, improved transportation, more readily available education in a common medium, Christian missions, and the economic and social development efforts of the government are all forces which are changing the three traditional landscapes and bringing them into closer correspondence. Barring economic collapse or increased violence from a communist terrorist movement, the three landscapes will continue to blend and create, ultimately, a Malaysian landscape composed of elements contributed by each group.

In addition, the government has created two new and different landscapes of its own: a land development scheme and an area of concentration and detention of Chinese farmers. These new settlement forms have forced the inhabitants to adjust their former patterns of life and work to conform to the constraints and advantages of their new homes. Some of the forms of these landscapes created by government fiat may appear in the developing Malaysian landscape too.

Overall, the work intends to describe clearly the rural settlement forms extant in the First Division; to suggest a manner in which the effects of the developmental process of the area may be understood; and to illustrate how ethnic and religious diversity contributes to the uniqueness and fascination of Sarawak. (Order No. 73-7880, 310 pages)

The Real and Ideal Participation in Decision-making of Iban Women: A Study of a Longhouse Community in Sarawak, East Malaysia

Margit Ilona Kományi (Ph.D. New York University 1973)

This study addressed itself to the question: what are the underlying cultural factors that permit Asian women to occupy high political offices in their societies? To examine this question the research conducted a field-study among the Ibans of Sarawak, East Malaysia, a non-literate society as yet very little involved

in western technology. The investigation concentrated on identifying those norms in the culture which are indicative of the ideal and real participation in decision-making of Iban women in their society.

In the field, data was collected through tape-recordings and photography, as well as through the anthropological method of participant-observation. Most of the information was collected at Samu, an Iban longhouse on the Paku river, Saribas District, in the Second Division, and was checked and cross-checked during visits to several longhouses on the Paku and other rivers in the Second Division.

To determine the ideal and real participation in decision-making, the basic factors found in leadership and legal matters, religion, and agriculture were evaluated according to the criteria of visibility, activity, and function of Iban women in their society.

The findings of this research show that Iban women are ideally equal before the adat, customary law, that they share with the men rights and duties in every respect of daily life, participate together in decision-making, and receive equal rewards or punishments for their actions.

In reality, in decision-making women and men are equally powerful. This observation is based upon the fact that in the social and political organization of the longhouses there is no class distinction. An individual during his lifetime may acquire high prestige and become an honored leader; however, rank is not inherited. The Ibans live in a classless and egalitarian society. Men are usually the head of the longhouse, but women too may occupy this position. In religion, male and female deities are equally important, in rituals men and women participate together, and in the life crises there are no differences in the ceremonies performed for men and women.

While many Iban traditional practices are diminishing and western influences are increasing, the basic concept of Iban culture, equality, seems to remain. The acceptance of change, such as formal education, affects both sexes equally. Thus, a girl is not bound by tradition to devote her life solely to the family and to household duties. She is supported and encouraged to continue her education and is not denied the opportunity to obtain a job away from her community. The acceptance of this change does not destroy the basic values of the society, rather it enhances the Ibans' survival.

Although Sarawak is a developing country with very little industry, several Iban women occupy leading positions in city and state government, in teaching, nursing, and social work. Within their professional responsibility these women promote Iban culture, contribute to better health and hygiene, and continue to maintain a close contact with the longhouses.

(Order No. 73-8177, 157 pages)

From Longhouse to Pasar: Urbanization in Sarawak, East Malaysia

Vinson Hutchins Sutlive, Jr. (Ph.D. University of Pittsburgh 1972)

From Longhouse to Pasar is a two-part anthropological study of the Ibans of the Sibu District of Sarawak against the background of Sibu Town, a developing administrative center and entrepot. A regional approach is taken, based on a bifocal perspective of the interplay that has occurred between rural and urban residents and the effects on both.

Part One is a cultural ecological analysis of urbanization as a form of human adaptation. The setting of the region is examined and evaluated in terms of edaphic, climatic and biotic resources. The author describes the early history and peopling of the district, with particular attention to factors related to Iban migrations. The economic development of the region is traced, and the stages between the indigenes' exploitation of forest resources to the present highly diversified economy are noted and analyzed.

The growth of Sibu as an urban center is discussed in connection with historical developments during the Brooke Raj and more recently. The author analyzes the expansion of Brooke rule and the significance of the establishment of government offices in reorienting the Iban to a new power structure. The increase of trade and emergence of Sibu as an entrepot has had numerous effects on traditional Iban culture. The town has grown in relative importance to the Ibans who are attracted to it as a center of services, education, recruitment and recreation.

Part Two of the dissertation is a description of Iban adaptation, social organization and culture. Similarities between the Ibans of the district and those of the Balleh, as described by Freeman, are discussed, as are important differences. Social and physical fragmentation of longhouses is analyzed together with hypotheses about the future of the longhouse as a settlement pattern. Iban culture is considered in terms of a grammar of values, and in light of more traditional and modern interpretations.

The number of Ibans residing in Sibu Town has increased almost five-fold during the past decade, and the author discusses factors involved in Iban in-migration. Three life-histories, of immigrants and a single life-history of a commuting Iban entrepreneur are presented.

In the conclusion, the author discusses questions of theoretical interest on the effects of urbanization of Iban society and culture, the nature of changes that have occurred, and factors involved in decisions of Ibans as they adapt to new people and contexts. (Order No. 73-16,345, 502 pages)

THE BORNEO RESEARCH COUNCIL (Continued from page 46)

Fellows of the Borneo Research Council

The privileges of Fellows include (1) participation in the organization and activities of the Council; (2) right to form committees of Fellows to deal with special research problems or interests;