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	PAGE
NOTES FROM THE EDITOR	1
RESEARCH NOTES	
Hendrik Tillema and Borneo Victor T. King	3
Methods and Problems of Studying Poverty in Sarawak Joseph Ko Tee Hock	15
Kayan Land Tenure Jérôme Rousseau	47
BRIEF COMMUNICATIONS	56
NEWS AND ANNOUNCEMENTS	60
BORNEO NEWS	67
BOOK REVIEWS, ABSTRACTS, AND BIBLIOGRAPHY	76

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NOTES FROM THE EDITOR

A Filipino sociologist once remarked, "There probably is nothing more easily obtained in Southeast Asia than incorrect statistics." While he may have been correct for the time when he spoke, this is no longer the case for the entire region. The Department of Statistics for the state of Sarawak, for example, has amassed and continues to collect solid data for the study of poverty, rural-urban migration, and other important topics. The article of Joseph Ko which appears in this issue of the Bulletin is a welcome contribution from a young scientist.

It is with a great sense of loss that we note the passing of Professor Dr. Cornelis Gijsbert Gerrit Jan van Steenis, "Dean of the Flora Malesiana." As quoted in the "Editorial" noting his death, "It is with books as with men: a very small number play a great part, the rest is lost in the multitude" (Voltaire).

We express our thanks to the following persons for their contributions to the Borneo Research Council, helping to make possible the continuing publication of the Bulletin: Robert Allen, Laura P. Appell-Warren, Tim Babcock, Richard B. Baldauf, Jr., Martin Baier, Stanley H. Bedlington, Donald Brown, Conrad P. Cotter, Jay B. Crain, Michael R. Dove, Richard C. Fidler, Biruté Galdikas, A. J. Hepburn, Timothy C. Jessup, Victor King, Michael B. Leigh, Clive W. Marsh, Rex Marshall, Allen R. Maxwell, Peter Metcalf, John K. Musgrave, Ida Nicolaisen, H. Arlo Nimmo, Stanley J. O'Connor, J. R. and H. L. Palmer, D. A. Pocock, Jérôme Rousseau, Orville A. Smith, Jack Stuster, John O. Sutter, Anna L. Tsing, M. Uchibori, Andrew P. Vayda, C. & J. F. Warren, and W. D. Wilder.

RESEARCH NOTES

HENDRIK TILLEMA AND BORNEO

VICTOR T. KING

Centre for South-East Asian Studies
University of Hull

The Rijksmuseum voor Volkenkunde in Leiden houses the complete photographic collection of the late Dr. H. F. Tillema, the well-known Dutch writer and traveller, who devoted much of his life to the study of the Netherlands East Indies. Tillema was a celebrated man in Indonesian circles in the interwar years, and, in recognition of his studies and labours on behalf of the peoples of the East Indies, he was honoured in his lifetime. He was made an 'Officier in de Orde van Oranje Nassau' in 1914; he became a 'Ridder (Knight) in de Orde van de Nederlandse Leeuw' in 1939; the Indisch Instituut in Amsterdam granted him its 'grote zilveren medaille' in 1940; and in the same year he received a Honorary Doctorate in Medicine from his old university, Groningen. In 1938, W. H. Rassers, the then Director of the Rijksmuseum voor Volkenkunde in Leiden, wrote in the Museum's Annual Report that Hendrik Tillema had decided to bequeath all his photographic materials and films on the East Indies to the Museum, and that these would become the sole property of the Netherlands state three months after Tillema's death. Tillema died on 26 November 1952 at the age of 82,1 and G. W. Locher, the Museum Director at that time, confirmed the receipt of Tillema's gift in the Annual Report for 1953.

To my knowledge very little use has been made of this Leiden collection since then, though the very well produced catalogue Kalimantan. Mythe en Kunst, which accompanied the exhibition of that name at the Indonesisch Ethnografisch Museum, Delft, from February to December 1973, contained 21 plates reproduced from the Tillema collection. My close friend and colleague, Drs. Jan Avé, the recently retired Conservator of the Indonesian ethnographic collection at the Rijksmuseum, wrote the introduction to that catalogue; he was much involved in the preparations for the Delft exhibition, and it was through his co-operation that the Tillema photographs were made available to the Delft

Museum. The Museum für Völkerkunde in Berlin has also made use of some of Tillema's materials for its records. More recently I have been examining the photographic collection and various papers and published work of Tillema's with the assistance and support of Drs. Ave and the Museum's photo-archivist, Mrs. Boeseman-Pluymert.

Tillema's photographs are kept in large, hard-covered ring-binders. Of the total of 35 binders, there are 13 which contain prints of Borneo. These are labelled 5f to 15p and, in addition, 3011 and 33. The remaining binders cover much of the rest of the Indonesian archipelago, and were principally the result of Tillema's extended journey in 1924-25 through the islands, from Sumatra in the west to New Guinea in the east. There are approximately 3,000 prints on Borneo, though several of these are duplicates or they cover much the same subject-matter. Many of them have already appeared in Tillema's published work, and it is in binder 33 that most of these published plates are to be found. Fortunately, most of the prints have the corresponding negatives stored in separate boxes so that good quality photographs can still be produced.

Tillema undertook two major trips to Borneo during the years 1927-28 and 1931-33. Students of Borneo will probably be more familiar with the second journey, from which came Tillema's book Apo-Kajan. Een filmreis naar en door Centraal-Borneo (1938a). On his first trip in 1928 Tillema devoted his main energies to photographing the lands and the peoples of south-central Borneo, and the south-eastern and eastern coastal districts of the island from Banjarmasin to Balikpapan and on to Tanjung Redeb, Sambaliung and Gunung Tabur. He travelled up the Barito river from Banjarmasin as far as Purukcahu in the Upper Barito. Then he journeyed, after his arrival on the east coast, along the Kelai and Segah rivers. Most of the photographs concern the Siang Dayaks, an Ot Danum group, in the Upper Barito; and the Modang and the nomadic Punan Kelai and Basap of the Berau region. Ring-binders 5f and 8i cover the Barito journey; the latter part of 8i records the sea journey along the east coast via Balikpapan, while 9j to the first quarter of 111 contain photographs of the peoples of the Kelai and Segah rivers.²

Finally, Tillema visited the Dutch Western Division (Westerafdeeling) of Borneo, and from Pontianak sailed up the Kapuas river to Putus Sibau. He also made brief trips along the Sekayam river, into the Upper Kapuas Lakes area, and to the Mendalam river, as well as along the coast north to Singkawang. The remaining part of folder 111 and the whole of 12m relate to the Western Division. There are prints of Land Dayaks (Bidayuhs), Batang Lupars (Ibans), Kantu's, Embalohs (Malohs) and Mendalam Kayans. Binder 3011 contains photographs taken not by Tillema, but those sent to him by the Capuchin priest, Father Gregorius, and by the Dutch controleur, W. C. ten Cate. They are of West Borneo, and many of those taken by Capuchin priests had already appeared in various Roman Catholic mission publications such as the Borneo Almanak.

Some of Tillema's materials from this first trip to Borneo appeared as articles in such journals as the Koloniaal Weekblad, Tropisch Nederland and Nederlandsch-Indië Oud en Nieuw. In my view, his most informative articles from this period are "Tatoeeren op Borneo" (1930a), "Vlechtindustrie op Borneo" (1930b) and "Doodenpalen, tiwah en lijkverbranding op Borneo" (1931). It has to be said that Tillema was an interested amateur ethnographer and photographer. He had been trained in Leiden and Groningen in the 1890s as a pharmaceutical chemist. He visited Borneo out of a general scholarly interest in and practical concern for the peoples of the East Indies, and out of a desire to learn more about the living conditions of the Dayaks. He was obviously a keen observer, but his most detailed papers have invariably depended on information from colonial administrators, missionaries and others who had a far deeper knowledge of Indonesian cultures. His article on tattooing benefited from the diverse ethnographic examples which he had at his disposal (from the Siang, Modang, Iban, Kayan and Punan), but the worthwhile detail on Iban tattoos, for example, was supplied to Tillema by the Dutch controleur of Semitau, E. Werkman. Similarly, in Tillema's piece on woven rattanware, the knowledgeable Basel missionary, K. Epple, contributed data on the motifs in Ot Danum woven mats and baskets. Epple also gave Tillema a lot of information on funerary beliefs and practices along the Barito river for the paper on death-posts and tiwah; and Tillema consulted the work of the Capuchin priest, Father Fulgentius, for the discussion of cremation practices in West Borneo. Other

brief papers on aspects of Ot Danum culture such as "Godsdienstige gebruiken bij de Dajaks" (1930c), "Wichelen bij de Dajaks aan de Barito" (1930d) and "Spirit Ships in Borneo" (1937a) also relied to some extent on the knowledge of Epple. Obviously Tillema knew some Malay, but, on his own admission, his command of the lingua franca was inadequate for detailed discussions with natives, so he relied on interpreters (1938b:895). The Sultan of Gunung Tabur, who accompanied Tillema on his journeys in the Berau area, could communicate in Malay, Dutch and certain native Berau languages, and it was he who assisted Tillema in collecting information on tattooing in these eastern districts.

It was Tillema's later trip to the Apo Kayan, however, which was to yield numerous publications including a book, as well as a film, two film-strips³ and many exceptional photographs. In the photographic collection the three ring-binders 13n, 14o and 15p contain the Apo Kayan prints. A large selection of them has been published in Tillema's book; many have also appeared elsewhere in a series of articles in Buiten, De Indische Gids, Natuur en Techniek, Nederlandsch-Indië Oud en Nieuw and its successor The Nederland Mail, Onze Aarde, Tropisch Nederland and Die Umschau.⁴

Tillema's book is divided into two parts. Part I, 'Apo-Kajan in woord en beeld' consists mainly of text, though it is liberally illustrated with photographs. It deals with the author's meticulous preparations for his trip; the arduous 44-day, three-stage long-boat journey up the treacherous Kayan river from Tanjungselor to Long Nawang; the considerable difficulties of taking photographs and making films in the tropics, given the technical apparatus available in the 1930s and the fact that Tillema, without assistance, composed, shot and printed most of the photographs himself; the setting up of a base in Long Nawang and day-to-day life there; a description of the peoples of the Apo Kayan, particularly the Kenyah, but also the Punan; the journeys, over a six-month period, in the Apo Kayan with the local physician and government health officer in Long Nawang, Dr. H. de Rooy; and finally, matters of health and disease in the area, including demographic data supplied by de Rooy. Quite a bit of ethnographic detail is contained in the captions to the photographs in this first part of the book. Part II, 'De Apo-Kajans in beeld en woord', consists exclusively of photographs with captions. Here is the main

ethnography, with, in some cases, relatively detailed commentary. In all, the book is illustrated with 336 separate black-and-white pictures.

As one might expect Tillema, as an amateur ethnographer and as a photographer and film-maker, concentrated on the immediately visual aspects of Dayak culture in the Apo Kayan. In his book there is detail on such technical operations as tattooing, weaving textiles and rattanware, bead manufacture and design, making fire, blowpipe making, pottery and carpentry, and on the variety of items of material culture - dwellings, costume (male war-dress; hats; skirts; barkcloth), ornaments (beads, jewelry), musical instruments, bamboo containers, sireh boxes, baby-carriers and religious paraphernalia (funeral structures; wall-paintings, carved wooden images; masks). Tillema also portrayed ceremonies of initiation, head-hunting rites and masked dances, as well as aspects of the economy such as farming, fishing, trapping, sugar-making and honey-gathering. Despite the technical and environmental problems which he faced in his photography, he was clearly accomplished in visual composition. Tillema also produced some truly remarkable portraits of Kenyahs and Punans, and some dramatic images of his journeys by river, especially when he and his travelling companions were negotiating the formidable series of rapids along the Kayan. These photographs are an ethnographic source in themselves; some of Tillema's most arresting images certainly equal, if not surpass, the best Sarawak photographs of Hedda Morrison and K. F. Wong. But, of course, if the specialist wants a detailed ethnographic account of Kenyah culture, particularly religious beliefs and practices, then it is to such works as J. M. Elshout's De Kenja-Dajaks uit het Apo-Kajangebied (1926) that one should turn, and not to Tillema's Apo-Kajan. In general, Tillema's interpretations of religious artifacts and cultural motifs are pitched at a very simple level. Moreover, for modern anthropological analysis one would have to refer to such items as Herb Whittier's doctoral thesis on the Lepo Tau Kenyah of Long Nawang (1973).

Despite the travelogue quality of much of Tillema's narrative, I am impressed by his generally sympathetic portrayal and evaluation of Dayak life and culture. Certainly Tillema could be paternalistic, conscious of the

civilizing mission of the Dutch; but he was also very aware of the need to understand Dayak ways of life in their own terms. In striking contrast to the sensationalism and extravagance of many popular travel books on Borneo, Tillema's book demonstrates that he was a serious scholar with a commitment to the study of native cultures. His genuine intent is also supported by the fact that he financed his trips out of his own pocket, and also covered the costs of publishing most of his main writings himself. I have selected a few of his remarks about the Dayaks, especially the Kenyah, from his brief articles written in English to illustrate his attitudes to his native subjects.

In his appreciation and defence of Dayak beliefs he says 'The "heathen" is a most religious person. Whatever he does or avoids doing has a religious kernel, or a religious background.' He adds '...among the Kenya Dayak religion is everywhere, and enters into everything' (1937b:1-4). Elsewhere he has said 'Among primitive people adat, established custom, tradition, is quite enough to rule behavior. But are we, educated, civilized Europeans really very different?' (1935:54). In his discussion of public debates on the longhouse gallery Tillema remarks 'I...have been astounded by the skill in argumentation of these so-called savages, Attendance at such meetings is an excellent method to learn that illiteracy need in no way be synonymous with stupidity or ignorance' (1935:3-4). On head-hunting he states 'I do not in any way wish to justify the custom, but I must say that it was in no way founded on cruelty or lust of blood, and it seems to me regrettable that when this custom, which was to a certain extent based upon ethical conceptions, was abolished, we did not attempt to replace it by some other conception of spiritual value' (1934:4). On observing the methods of weaving cloth Tillema concludes that 'It is a very complicated process which bears witness to a high degree of intellectual development' (1934:4).

Above all, Tillema was impressed by the engaging, sociable, intelligent, lively nature of the Dayaks whom he met, and their exquisite skills in manufacturing diverse artifacts. He felt that it was one of his tasks to increase the awareness of the Dutch public about Dayak and more generally Indonesian cultures to correct misinterpretations and to counter some Western prejudices about the peoples

of the Dutch East Indies empire (e.g. 1930b:2). To this end Tillema wrote for popular magazines and newspapers as well as for scholarly journals. A series of his short newspaper articles on the Indies, many of them on Borneo, written between 1937 and 1941 were brought together in three volumes under the title Ons Indisch Boekje (een Bundel praatjes bij plaatjes voer Indië (1940-41)). But despite his penchant for popular writing Tillema was by no means unaware of developments in Dutch East Indies ethnology; he obviously read widely, and he prepared himself well for his various projects and trips. He was, for example, in contact and correspondence with a variety of acknowledged experts on Indonesian cultures including J. M. Elshout, A. C. Kruyt and Hans Schärer.

I do not have the space here to consider more fully the background and career of Hendrik Tillema⁵ but the underlying aims of his work on Borneo can perhaps best be understood by providing a brief sketch of his early life. As a qualified pharmaceutical chemist, Tillema had gone to Java as a young man of 26 to take up employment in a pharmacy in Semarang. He remained in Java from 1896 until 1914, when he returned to the Netherlands to devote the rest of his life to the study of the East Indies and to campaigning on behalf of the native peoples. Tillema became an entrepreneur and a wealthy man in Java, having taken over the running of the pharmacy business in 1890, and then establishing a factory in Semarang for the production and bottling of purified mineral water. His period of residence coincided with major shifts in Dutch colonial policies towards a greater awareness of the need to cater to the welfare of the subject populations of the Indies. Tillema himself became increasingly involved in this 'ethical' movement, and as a pharmacist, he took a lively interest in matters of local health and hygiene. He became a member of the Semarang town council in 1910 and together with the local physician, Dr. W. Th. de Vogel, he became actively engaged in attempts to improve the provision of safe water supplies and to raise the general level of hygiene in the town. Towards the end of his time in Java, and in the years immediately after his return to the Netherlands, he wrote much on the living conditions of the peoples of the East Indies, and, as a propagandist, used his influence, his personal contacts, and his considerable energies and determination to raise the level of awareness of Dutch

officialdom and the general public about health and hygiene in the colony, and the importance of improving the welfare of the colonial populations. Tillema was a skillful communicator. He wrote in a straightforward, powerful and entertaining way. He also realized that one vital form of communication was through pictures, and early on he used photographs to good effect in his publications.

His most well-known work which preceded his three ethnographic and photographic trips to the Indies in the 1920s and '30s was the monumental six-volume Kromoblanda. Over 't vraagstuk van "het Wonen" in Kromo's groote land, which was published at intervals between 1915 and 1923, and at Tillema's own expense. It provides an encyclopedic coverage of housing conditions, hygiene, the incidence of disease, the level of sanitation and the provision of water supplies, dietary regimes and the nature of childcare among the diverse populations of the Indies. It was based primarily on secondary sources and government materials, amply fleshed out with statistics, illustrations and photographs. It was in this work that we begin to see Tillema's growing interest in ethnography, and his realization of the importance of studying native customs and ways of life in any attempt to improve the physical and material well-being of Indonesia's peoples. Clearly, Kromoblanda was a scholarly piece of work, but even in this book one is aware of Tillema as the propagandist. Though he wanted to inform scientists and specialists, he was always conscious of the need to reach a wider audience.

The concern for the well-being of the indigenous peoples of the Apo Kayan also comes through in his later book on Borneo. During this Apo Kayan adventure he was fortunate in having at his disposal the knowledge and services of Dr. de Rooy. If it had not been for de Rooy, perhaps Tillema's project would not have been as successful as it was. As we have already seen, Tillema also relied heavily on interpreters and intermediaries during his earlier travels through Borneo. De Rooy made introductions, interpreted for Tillema and smoothed paths. Tillema followed the physician on his official visits to outlying villages, and on one notable occasion came into contact with a relatively isolated Punan community along the Iwan river. More than this, de Rooy supplied Tillema with demographic data on the region, and information on health care and

disease. This was, of course, of major interest to Tillema, and he devoted one section of his book, with accompanying photographs, to these matters, in addition to two other sections on de Rooy's work and travels in the Apo Kayan. Based on his long acquaintance with and varied experience of the Indies, Tillema argued passionately for general improvements in levels of health care there, and for the need to recruit inspectors with specific expertise in hygiene and in measures to combat disease.⁶ In this regard, Tillema praised de Rooy's efforts in the Apo Kayan in the face of difficult conditions and a lack of resources and technical assistance. He welcomed de Rooy's enterprise in collecting statistical data on birth and death rates, male-female ratios, live-births and surviving children per female, levels of sterility, age profiles and the incidence of various kinds of disease. Tillema argued that without precise information of this kind, which would also permit comparisons to be made between different villages regions and ethnic groups, the work of improving health care and fighting disease would be hampered. Therefore, Tillema's book on the Apo Kayan was designed not only to provide a popular ethnography on a particular native culture, but as with his earlier work, it was also intended to make practical recommendations and to influence opinion on matters of policy relating to health and hygiene.

Tillema was also very well aware of the potential deleterious effects of western contact on small, relatively isolated native communities. He was especially concerned about the dramatic impact that the introduction of disease from outside can have on these groups. The forest nomads of Borneo were very vulnerable in this regard, and Tillema, in his 1939 paper 'Jagerstammen op Borneo', issued a work of warning about colonial government policies to relocate and sedentarise hunter-gatherers. He questioned whether these Punan and other nomadic groups could cope with the changes being forced upon them, and wondered what unexpected consequences might follow from programmes of resettlement. Some 50 years ago then, Tillema was raising the sorts of issues which are still the crucial concern of members of the Borneo Research Council in the context of the rapid changes which are overtaking the populations of the island.

In my view the Tillema collection in Leiden merits further study. While I was researching the Borneo sections of the archive in mid-1986, I made one interesting find. Fastened into folder 15p on the Apo Kayan was a manuscript of 37 pages typed in English and entitled 'Explanation of Photographs'. This binder contained 137 photographs selected from the binders 13n and 14o. The English text therefore comprised the captions for the photographs. I also discovered that in some of Tillema's correspondence available in the Rijksmuseum, he intended an English edition of his book Apo-Kajan. This project, for whatever reason, never reached fruition, but I assume that folder 15p and the short manuscript are the beginnings of Tillema's English edition.

At present I am working on a translation of the Dutch text of Apo-Kajan into English, and together with the photographs and manuscript in binder 15p, and other prints from the collection, I am hoping to bring an English edition to press. Information from my article for Indonesia Circle (in press), and from this present research note for the Borneo Research Bulletin will be used in an introductory chapter on Tillema and his career to accompany the English edition. The Dutch text when available in English will also require some annotation in the light of more recent anthropological investigations of the Kenyah.⁷

The publication of an English edition will fulfill one of Tillema's own ambitions and it will provide the opportunity to make a large number of Tillema's photographs more readily available to those interested in the cultures of Borneo. The Rijksmuseum voor Volkenkunde has been extremely supportive in this project, and has expressed a willingness to reproduce all the necessary photographs for publication. The Museum holds the copyright to the photographs, and has granted me permission to use these. Furthermore, Oxford University Press in Kuala Lumpur, through the kind assistance of Dr. John Bastin, has registered its interest in seeing a final manuscript of the English edition of Apo-Kajan. I should like to record here my sincere thanks to Dr. Bastin for acting as a most sympathetic intermediary. Finally, I would be most grateful to hear from any members of the Borneo Research Council who might have information or views on Hendrik Tillema's work

on Borneo, or who might direct me to essential reference material on the Apo Kayan.

Notes

1. See, for example, the obituaries by Dr. J. Keuning (1952-53:472-77) and G. L. Tichelman (1953:5).
2. See, for recent information on the Berau region, Guerreiro (1985:106-20).
3. The film-strips were both produced by the Centraal Projectie Instituut Amsterdam. They are Land en Volk van Borneo Volkenkunde 10 50 pictures, 7-page catalogue, n.d.; and Een reis naar Apo Kajan, Volkenkunde 18, 51 pictures, 11-page catalogue, the text by Dr. C. Nooteboom, Conservator, Rijksmuseum voor Volkenkunde, n.d.
4. Though much of what Tillema wrote on the Apo Kayan prior to 1938 appeared verbatim or in slightly revised or expanded form in his book Apo-Kajan, one article published after 1938 deserved special mention. His long paper 'Jagerstammen op Borneo' (1939) uses Tillema's own Apo Kayan and Berau material on hunter-gatherers as well as a collection of data supplied by others such as Ensing, van Kempen Valk, Pauwels and Sitsen on other nomadic groups.
5. For more details, see my paper 'The Tillema Collection in Leiden', Indonesia Circle (SOAS, London), 1987, forthcoming.
6. His earlier record of his journeys to such places as Banjarmasin, Balikpapan and Pontianak was also preoccupied with questions of housing conditions, fresh water supplies, sanitation and incidence of disease (1929).
7. See, for example, the brief comments on Tillema by Whittier (1973:18, 246).

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METHODS AND PROBLEMS OF STUDYING POVERTY IN SARAWAK

by
Joseph Ko Tee Hock*

I. INTRODUCTION

The importance of poverty in Malaysia is reflected in the fact that its eradication constitutes one of the two basic objectives of the New Economic Policy (NEP) enunciated with the launching of the Second Malaysia Plan (SMP) in 1971. Within the 20 year framework of the Outline Perspective Plan (OPP) 1970-1990, the Fourth Malaysia Plan (FMP) marks the third phase and inaugurates the second decade of the NEP within this perspective period. FMP continues to elaborate and refine policy measures and programmes embodied in SMP and TMP "to ensure that the socioeconomic objectives of the NEP...are achieved".(1)

The Mid-Term Review (MTR) continues to evaluate and emphasize the incidence of poverty not only in Peninsular, but also in Sabah and Sarawak. Although not quantitatively explained what the poverty line is, MTR states that "poverty in Malaysia is more relative in nature and is in many ways closely tied-up with the distribution of income in the country and the quantity and quality of public services enjoyed by households".(2) This reinforces the FMP recognition that poverty is multi-faceted in nature.

*Statistician, Department of Statistics Malaysia, Cawangan Sarawak.

NOTE

The views and options expressed in this paper need not reflect those of the Department of Statistics, Malaysia. The author is solely responsible for these views and opinions.

It is this paper's objectives to:

- (a) identify and review the multi-dimensional aspects of poverty,
- (b) analyze the economic and social objectives of poverty programmes, and
- (c) discuss the various methods and problems of quantifying poverty, be it in absolute, relative or externality terms,
- (d) reflect on some of my thoughts on poverty in Sarawak, and
- (e) conclude with suggestions for further statistical and socioeconomic research studies.

Poverty has to be studied within the context of the development level of the country as well as the prevailing norms of the country. Wherever possible, therefore, figures, cases or studies relating to Malaysia or Sarawak are cited in this paper not only as examples for their own sake but also as indicators of research work left to be done. Comparative examples, especially from other developing countries will also be incorporated.

II. ASPECTS OF POVERTY

The multi-faceted nature of poverty is discussed below.

Statistical Aspect

Most poverty studies start with conceptualizing and identifying the type of statistics required to define urban or rural poverty target groups, and subsequently to formulate objectives and programmes for these groups. Once implemented, the monitoring and evaluation of these programmes require additional statistics for both qualitative and qualitative analysis. The range of poverty statistics so required have to be not only conceptually and methodologically sound, but also inter-temporally comparable and up-to-date.

Compared to the rural poverty exercise, the urban statistical task appears to be easier not only because survey costs are generally lower, but also because data collection is thought to be easier with better field-interviews, higher literacy and less imputations in urban areas. But unlike rural areas, respondents in urban areas are generally less

cooperative and harder to contact; also their income and expenditure compositions are relatively more varied and complicated, often involving misreporting and recall problems. These problems are of course, not exclusive of the other various common definitional and data collection problems inherent in all income and expenditure surveys.

Time Dimension

Poverty studies are faced not only with a range of statistical problems, but also with various conceptual and methodological problems. Dynamic as any population is, programmes planned for a poverty group defined to-day will eventually benefit many future migrants, some poor, others non-poor. The time dimension also implies that poverty groups are moving targets and change not only through turnover (e.g. changing earner-dependency ratios) but also through growth in absolute numbers caused by migration and natural population increase. The longer the time frame for a "poverty-reduction" programme, the more important will be the "poverty-avoiding" actions directed at potential recruits to the group (e.g. rural-urban migrants arriving illiterate and unemployed) as against actions directed at to-day's poor.

Activities Inter-related

Also, because production and consumption are so varied and inter-related, intended positive direct effects (e.g. low-cost housing using cheap labour) could cause unintended negative indirect effects (e.g. lower wages). Conversely, measures directed at non-poor could lead, through the "trickling down" effect, to poverty reduction or avoiding via increased demand for labour or output of small-scale industries. It is, for example, the World Bank policy to attack poverty indirectly via productivity:(3) since poverty-reduction is a complex objective, complex and inter-related sets of data are needed to study and estimate behavioral parameters.

Geographical Areas Inter-related

In fact, many "urban poverty action programmes" are defined broadly for a complementary, integrated attack to reduce both urban and rural poverty. This is because of the

many known close urban-rural linkages, for example, through migrants' remittances, and transfer of technology and skills to the originating rural areas or conversely through the inflow of poor village workers to higher income occupations in urban destinations.(4) At the regional (e.g. district) level, inter-regional linkages require that poverty programmes be defined with allowances for integrated regional development.

Social and Welfare Aspects

Inter-related also are the economic and social aspects of poverty. Social or welfare aspects such as basic amenities, health and education are casually related with poverty and are instrumental objectives in poverty programmes.(5) Moreover, these are generally collective goods with significant external or community effects,(6) correlated with but not separately measurable in individual household or family incomes. The deficit group will include those who lack the "minimum" level of housing or nutrition, access to utilities or health services. In contrast, the poverty group, be it absolute or relative, is defined in terms of money or imputed income. The deficit group may overlap, often only partially, with the poverty group. Thus, households or families above the poverty line, however defined and quantified, may lack the "minimum" level of, say, housing or education i.e. physically or mentally poor. In fact, a 1976 World Bank report(7) on poverty shows that the overlap between poverty and service deficit can be less than expected. For instance, in Columbia, only 23 percent of the poorest (bottom quintile) urban families lacked piped water, while most families lacking water were not in this bottom quintile. In Malaysia, about half of all urban households needing water were not in the absolute poor group. Further studies on such "income-access" relations should be undertaken not only in Peninsular Malaysia, but also in Sarawak.

Variability Aspect

To complicate the above question it is difficult to quantify, say, what is "minimum" nutrition since requirements vary between urban and rural areas, ethnic groups, sexes, ages, time, and even between occupations. In the case of non-food needs, the problem is even greater. For example, access to piped water does not reflect actual

availability, usage (possibly because of inadequate income), distance, number of other users, quality of water, rate and regularity of low. Some of the alternatives to such variability and qualitative problems are discussed later in this paper.

Distributive Aspect

Important to note also is that there are degrees of poverty. An absolute poverty line can only artificially separate the group of poor below this line; this group variations still exist between those at the bottom and those at the top or line margin, and through time there could be income improvement within this group, although its number or relative importance does not improve. Also, because of the non-contiguous, dispersed or scattered locations of these poor, it is difficult from a programme implementation point of view to have action programmes that can directly reach the affected households or families without some leakage of benefits to the "non-poor" in the area.(8) The question then is what is the socioeconomic value of these leakages and how much are such leakages to households or families just above the poverty line. While economic growth is a major vehicle for eventual poverty reduction, it is important also to consider the distributive effects, because much of the potential impact on poverty will flow not from macro, be it general or sector-specific, direct-benefit programmes but from general growth policies (e.g. impact on demand for labour or population mobility) and from the distributive spread or spillover of the "non-absolute-poor" benefits (e.g. groups just above the poverty line).

An inter-country comparative study(9) of 60 countries on the statistical relationships between growth, poverty and inequality(10) shows that while empirical evidence supports the existence of Kuznets' U curve, average absolute incomes of the lower percentile groups rise as per capita GNP rises, although slower than for upper income groups. The cross-section results do not support the hypothesis that faster rates are systematically associated with higher inequality. In fact the operation of four processes was observed as contributory to improvement, in income distribution;(11) they are intersectoral shifts in the structure of production, expansion in educational attainment, higher skill levels, and reduction in population growth rate.

III. THE INCOME OBJECTIVE

The economic and social aspects of poverty identified as needs for actions in poverty programmes require that poverty objectives, be it for poverty eradication, reducing or avoiding, be both income and welfare orientated. The income objective can be defined in terms of income deficit, direct beneficiaries or specific statistical indicators.

Income Deficit

Statistically, the need for frequent household surveys on income, expenditure and nutrition lies in the use of statistics for measuring and monitoring not only the number of poor but also their income deficit in terms of how far each falls below the poverty line. Since not all the poor below the line are equally poor, a numerical reduction in the number of poor needs not be accompanied by a corresponding reduction in the poverty deficit. To monitor this, consistently comparable per capita income figures are required.

Counting Beneficiaries

In the absence of data for measuring income-deficit, counting the beneficences of directly targeted programmes might be considered a second-best approach. But the impact of such direct-benefit measures is often associated with leakages and unintended negative effects caused by the inter-related nature of the affected markets (e.g. training certain crafts may reduce or displace business for others). Also, there are many degrees of benefit; for example, the benefit of piped water connections to households already having water from public stand-pipes is different from those who have been paying dearly for trucked-water.

Statistical Indicators

Another second-best way to monitor the impact of indirect measures on poverty involves the use of statistical indicators from GNP growth rate and wage rate (especially for unskilled occupations in the informal sector); these indicators should, preferably, be deflated to constant values for comparative purpose.

Thus, if poverty-reduction is occurring among, say, estate labourers it will probably be reflected in improved levels of wage rate. Rising GNP with employment generating growth, on the other hand, will ultimately have an impact on poverty via the labour market by raising wages of existing jobs or by creating jobs with higher wages. There are, of course, various limitations to such measures. For example, rising wage rates do not imply rising earnings, and non-wage earnings of own-account workers may move independently of the wage level. Also, household incomes may be rising beyond the poverty line despite falling wage rates, because of increasing participation rates, hours worked, or allowances earned. Wage and GNP indicators by themselves do not turn monitoring into a simple statistical check, but they can alert economists to key questions or factors regarding the income and employment dynamics related to poverty. Further analysis may, for example, indicate that poverty is not caused by low basic wage levels, but by inability to earn the basic wage (e.g. because of temporary lay-off unemployment or ill-health) or by rising dependency-earner ratios.

IV. SPECIFIC WELFARE OR SERVICE OBJECTIVES

Poverty-reducing programmes can be targeted to achieve not only a minimum level of household or family income, but also with respect to specified components of family welfare (e.g. health and education). Operational targets for these components are easier to monitor and evaluate if they are seen as objectives in themselves, but less easy if they are seen as instrumental to reduce general poverty (e.g. it is difficult to establish the causal relationship between education and earnings).

As explained earlier, it is difficult not only to define and quantify what specific welfare or service targets are, but also to determine how many fall short of the standard or norm agreed upon, and falling short by how much. Furthermore, such measures have the weakness of reducing what are in effect continuous distributions to "either/or" alternatives. Finally, programmes based on such data could be biased towards physical rather than qualitative improvements (e.g. constructing new water connections rather than improving the quality of water from existing public or communal stands); also, they could be biased towards

numerically pushing families above some statistical threshold, rather than upgrading conditions for those (often the majority) who continue to remain below the threshold.

V. QUANTIFYING POVERTY

To quantify poverty, various population statistics (e.g. by district, urban/rural, occupation/industry, race, and growth components) are required to provide the statistical base for applying the poverty line or income distribution figures. The dynamic of population growth and change imply that in and out migration will affect the composition and number of poor in a particular area; also, turnover will affect the poverty group in that some of today's poor will rise out of poverty, while some of today's non-poor will sink below the dividing line (e.g. because of increased dependents or unemployment). These make the statistician's work difficult not only in terms of identifying and describing today's poverty group, but more so in terms of projecting tomorrow's target group. The sensitivity of target group projections is reflected in the fact that different assumptions will result in different figures. The 1975-1985 study on Peru, (12) for example, shows that the size of the urban poverty group (1.2 million persons in 1975) rises to 5.4 million persons in 1985 if one adds all population increase to the current poor under the "population-driven" projection, while the "migrant driven" alternative (assumes all migrants to be poor) will result in a 3.2 million figure; lastly, the "constant-share" projection (assuming a constant proportion of urban poor) shows the figures at only 1.8 million. The first assumption thus gives a figure which is three times higher than the last figure, highlighting the importance and sensitivity of assumptions about the impact of migration and economic growth on the poverty group. Although population statistics are generally less problematic and more readily available than poverty line or income distribution figures, the choice of realistic assumptions requires a deep knowledge and understanding of the population dynamics for the area under study.

The Poverty Line

The search for a quantitative measure that can describe and summarize poverty leads economists and statisticians to the idea of conceptualizing and computing the poverty line.

According to M. Rein, there are basically three broad concepts and measures of poverty. (13) The subsistence or absolute definition of poverty is operationalized in the form of a poverty line or threshold, valued in terms of income. The second measure concerns the relative position of income groups to each other. Different from the absolute poverty definition, this inequality or relative poverty definition can be operationalized in two measures, i.e. poverty defined as the lowest X percent of the income distribution, and poverty defined as income (be it gross or net, household or family, per capita with or without adjustment for adult equivalents) less X percent of the median income; the World Bank defines relative poverty as "those who earn less than one third of the average per capita income in a country". (14) Thirdly, the externality definition is concerned with the social or welfare aspects of poverty in terms of access to, say, education, utilities and health services.

Absolute Poverty

While human beings have both material and socio-psychological needs, deprivation of the former (especially in terms of nutritional deficits) is commonly agreed as more critical. Attempts to define and quantify the degree of nutritional deficits start with the concept of an absolute measure based on the cost of minimum nutritional requirements.

It is important to note, however, the "minimum dietary needs" approach to absolute poverty is loaded with both conceptual (15) and operational problems. For a start, it assumes biological discontinuity in calorie/protein requirements, a reduction from what are in effect continuous distribution. Next, there are variations in needs created by human (e.g. race, sex), cultural (e.g. religion), physical (e.g. climate), and work differences. How absolute, then, is the FAO international dietary standard of "minimum" food energy requirement for, say, the Sarawak urban Malays if in practice they are consuming less but are still nutritionally fit. The quantitative deficit could also be due to inadequate food choice or non-availability of food rather than insufficient income. Even if there is no availability problem, there is the problem of food habits and tastes, cultural preferences, and religious requirements. The package or basket of minimum cost diets conceptualized by statisticians may include unaccustomed, unacceptable or disallowed foods.

In fact, calculation of the minimum subsistence basket assumes that consumers (especially housewives) have considerable knowledge of nutrition, marketing and resourcefulness in cooking.

There is, however, an alternative method proposed by H. T. Oshima(16) that avoids the need to determine the minimum subsistence basket; rather, it is based on actual consumption pattern. With per capita income classified into 10 deciles and arranged in ascending order, the Engel coefficient (i.e. percentage of expenditure allocated to food) for each of these deciles is calculated; the decile in which the Engel coefficient begins to fall is then identified. All those whose incomes fall below this decile are thus considered poor. Using the 1973 Household Expenditure Survey (HES) data, Ishak Shari(17) found that the Engel coefficient dropped after the second decile, identifying the per capita expenditure of the third decile (i.e. at \$38.33) as the poverty line for Peninsular Malaysia; the average household size for this decile was 5.8.

Besides food needs, the determination of poverty line also involves the identification and computation of non-food needs. The 1982 Household Expenditure Survey in Sarawak, for example, shows that food only makes up 43.8 percent (an increase from 1967's 43.0 percent, because of higher expenditures on 'food away from home') of total household expenditures, the balance of 56.2 percent being on 8 broad non-food items i.e. beverages and tobacco (3.8 percent), clothing and footwear (4.0 percent), gross rent/fuel and power (19.3 percent), furniture and furnishings/household equipment and operation (5.2 percent), medical care and health expenses (1.1 percent), transport and communication (12.4 percent), recreation, entertainment, education and cultural services (5.5 percent), miscellaneous goods and services (4.9 percent).(18) For non-food needs, however, there is no corresponding standard or norm which is equivalent to minimum nutritional requirements.

A common approach to the above problem is to use the actual non-food expenditures of "the poor" by applying a standard ratio of non-food expenditures derived from household expenditure or budget surveys. Variations, however, exist. Adjustments for urban-rural differentials, for example, are required given the disproportionate increase

in rent and transportation costs with urban size. Urbanites are known to buy or pay for much that is either free or self-made in rural areas. As an alternative to the constant ratio methods, the actual non-food expenditures of "the poor" method with urban-rural and household size adjustments presents a more accurate picture. Both methods,(19) however, introduce subjectivity and relativity in the choice of "which group of poor" (bottom 30.0 percent?), and in the implicit assumption that actual non-food expenditure are indeed the minimum; in fact, many poor families spend more, especially on babies and children, than is required to satisfy both dietary and non-food (e.g. medical care and health) needs.

The above approach corresponds to M. Orshansky's measure of poverty which is adopted by the U.S. Social Security Administration.(20) The poverty study by Ishak Shari on this approach for Peninsular Malaysia using the Ministry of Welfare estimates (for cost of minimum diet per person) and the 1973 HES data (for actual non-food expenditure of households with income below \$200.00 per month) shows ten different poverty lines for ten household sizes with breakdowns for urban and rural areas.(21) For example, for a household size of 5, the urban poverty line in terms of monthly per capita income was identified at \$47.88 and for rural \$42.27. It is interesting to note here that the urban line is 13.3 percent higher than the rural line. Also, the poverty line on this approach is much higher than Oshima's approach above which shows the line at \$38.33. Both of these measures, however, identify poverty at a per capita monthly income which is much higher than the 1973 official Economic Planning Unit(22) figures of \$30.58 in rural areas, \$38.33 in urban areas (10.8 percent higher than rural's) and a combined poverty line, according to Shari, of \$35.67 for Peninsular Malaysia.

When finally computing the absolute poverty line by valuing minimum nutrition(23) and non-food needs, allowances have to be made for regional or urban/rural differences in relative price. The so derived line has to allow also for variations in family size, age composition and average body weight.

Besides the ideal diet method to poverty, there is the behavioral or actual assumption method which measures the

energy and protein content of actual food baskets of different income groups the household or family expenditure level corresponding to the minimum dietary intake is then identified as the poverty line. This line is usually higher than the ideal-diet line, because of inefficient use of income for dietary maximization. Although expenditure and dietary surveys are difficult and expensive to conduct, the behavioral measure is a useful tool for nutritional policy not only because it can estimate the nutritional improvement that will result with rising income, but also because it can identify the gap between the actual and ideal poverty lines to show the potential for increasing the nutritional efficiency of eating habits.

Relative Poverty

As earlier explained in this paper, inequality or relative poverty can be quantified in various ways. For example, Shaari defines "low-income households as those in the lower half of the per capita income distribution range".(24) But whatever method is used for quantifying this relative measure, none of them is ideal. The value of each method varies with each analyst's objective and with the quality and comparability of income data used. Before using any income data it is important for analysts and researchers to be acquainted with what the figures are, and with what they can show or cannot show. Summarized below are some of the major problems that normally influence the accuracy or comparability of income data:

1. Scope problem: What is the coverage of the survey? Normally, it should cover both urban (what is urban?) and rural (does it include far-away settlements?) areas. The geographical scope of a survey is, of course, greatly determined by the time factor, availability of funds and staff.
2. Sampling Problems: Other than the 1980 Population and Housing Census approach, income surveys are normally conducted on a sample basis. How big is the sample? What is its design? What are the expected sampling errors, for what variables and at what geographical levels? For example, can the sample give reasonably accurate income distribution data by race at the district level, classified into urban and rural? It is

often not realistic to expect a design to cater for all strata, ethnic groups, income groups, occupations and industries. The census approach, while supposedly covering "everyone" is not without undercoverage problems. Moreover the non-sampling errors may be greater. And, because it is a census, income can only be collected through the class intervals approach without going into the details of identifying and calculating each source of income for each activity for each earner in a household. Income figures from the census approach are normally lower than those from the sample approach.

3. Frame problem: The quality of sampling is often dependent on how complete and up-to-date the urban and rural sampling frames are.
4. Timing problem: Income surveys cannot be conducted without considering the timing factor. The "landas season" is bad for travels to coastal and up-river localities. Festive seasons like the Chinese New Year or Gawai or Hari Raya are not conducive to enter respondents' homes and start asking how much they earn, especially after they have spent so much. Also, attempts are normally made to avoid launching an income survey that will clash with other existing surveys.
5. Reference period problems: Do the income figures refer to those earned in a particular week, month or year (calendar, accounting or agricultural)? Certain surveys collect both monthly and annual figures for checking and seasonality evaluation purposes.
6. Staffing problem: Survey statisticians always have problems in recruiting, training and keeping the type of officers that are required for income surveys or studies. Conceptually, these officers must be able to understand and remember all the various concepts, definitions, rules and exceptions. Mathematically, they must, at least, be able to perform simple (not so simple for many) arithmetic calculations. Character wise, he must be honest enough to collect income figures in the ways he has been trained to collect, and not follow any self-invented short-cuts or "cook up figures under

the coconut tree." Operationally, he must be able to travel to (and return from) the selected locality, have an initial sum of money enough for field expenses until his claims are received, speak the local language or dialect, and massage his interviews through without being chased out faster than he walked in.

7. Coverage problem: Before the actual identification and calculation of income can start, steps have to be taken to ensure that all the living quarters, households, families, persons, and earners in the selected area (e.g. enumeration block or locality) are properly identified and fully enumerated. Missing out an earner, for example, means that the household is short of one earner (affects earner-dependent ratio), and household income will be under-reported by the value of this earner's income.
8. Content problem: This relates to what is a family or household (excludes single person households as in U.S., Japan and South Korea?) private or institutional households only, what are the criteria for defining the recipient unit (all usual members only? What is usual?) How is income defined (on earned or received basis? must be regular in nature? made up of what sources? includes transfers?), How to ensure that all earners' incomes from all sources from all activities performed in a defined reference period are included, what and how to impute (e.g. free or concessional rental and food, subsidy, company-paid income tax, free passage, free car and medical benefits, free uniform, value of owner-occupied house, use of firewood and water in rural areas, working proprietors business income). Items like alimony and free gifts are often difficult to collect, because they can be sensitive topics for certain respondents.
9. Processing problem: This includes the need to make substitutions for non-response (e.g. no one at home, refused to cooperate), editing and coding of collected information (esp. when income figures do not make sense or do not add up), computer error cycles and subsequently, evaluation of tabulated data for both internal and external consistencies.

From the above analysis, it is evident that the technical and organizational capabilities required to collect and produce income figures in Sarawak are no less than those required for collecting expenditure and nutritional figures through budget survey. Expenditure figures are as important as income figures for mapping poverty. Alamgir, (25) for example, identified as "poor" those monthly household income groups for which the average annual per capita expenditure is found to be less than the pre-determined poverty line. This 1966/67 study of poverty in Bangladesh, with comparative analysis for 1963/64, was later refined by Mujahid(26) by treating the monthly household income distribution of each household size separately. For these two studies, both income and expenditure figures are available. Where only expenditure figures are available, the expenditure distribution provides the best alternative. In Peru, for example, the 1971/72 family expenditure figures were used by Webb to graph the expenditure distribution. (27) Although there is the tendency for respondents to over-report expenditures, it is in many ways better than income figures which are subject to unknown degrees of under-estimation or misreporting of incomes (esp. for non-waged or non-salaried incomes like earnings of working proprietors who are always conscious of income tax problems). Expenditures, on the other hand, are recorded and controlled by detailed recording of expenditures, regularly checked and updated by interviewers visiting the selected family or household. In fact, statistical evidences, including those from Peru, show that the expenditure distribution is normally higher than the income distribution for the same period. The income distribution will be particularly low if the survey limits itself to one direct question on incomes, uses a reference period that is short (e.g. one week or one month), and is not controlled, as for expenditures, by detailed listings or regular checkings. However, if incomes were collected together with expenditures in the same survey the quality of income figures should be better because of the possibility of counter-checks by expenditure figures. Finally, it is important to note that while consumption outlays in budget surveys show actual expenditures (e.g. on food and non-food needs), incomes earned need not be all spent by the respondent or household interviewed; in fact, the higher the incomes the greater the possibility for expenditure to be not equal to income, because of things

such as savings, capital outlays (treated as durables) and remittances to other household (treated as transfers).

Social or Welfare Measure of Poverty

The rationale for, and conceptual problems of, using the social measures of poverty have been discussed earlier in this paper.

Quantification of such measures require:

- (a) identification of the social or welfare aspects that are pertinent to poverty in a particular environment like Sarawak. These could include utilities, amenities or public services like education (incl. scholarship/-loan/grants), medical and health services, water supply, electricity, sanitary or toilet facilities, and housing (incl. housing/car/motorcycle and other loans).
- (b) operationalizing these aspects into quantifiable statistics. The utilization of existing, or collection of new, data requires that each aspect be analyzed in terms of its multi-dimensional nature. Differences often exist between accessibility, availability and actual consumption. Also, statistics are required on the qualitative aspects of, say, piped water in terms of bacterial/chemical quality, quantity available/affordable per person daily, convenience and continuity.(28)
- (c) decisions on the relative importance, or priority, for each welfare need. The problems of relativity and subjectivity have often made quantification more policy that statistical in nature. It could, for example, be argued, as by the World Bank, that "electricity is not a necessity, while water supply and health projects are believed by some to deserve greater weight on social grounds. Together with health and transportation project, water supply and education projects are deemed to have larger unquantifiable results. Moreover, alternative sources of light and energy, though generally inferior, are available even in the poorest regions."(29)
- (d) identification of what is the desired or needed level(s) of, say, water supply, literacy, housing, medical and

health services; these levels of standards must be quantifiable for monitoring and evaluation purposes.

- (e) conduct of specific micro-studies to confirm or clarify certain dynamics important to poverty analysis (e.g. income-access relationships, causes of inadequate access or consumption, level of trade-offs between additional housing space and extra travel distance, and how much will a poor household pay for piped water or electricity).
- (f) the setting up of an integrated data-base for continuous monitoring, and counter-checks with other measures of poverty.

An illustrative example on the utilization of piped water, electricity and toilet facilities in Sarawak is summarized in Table 1 and Figure 1. Based on published figures from the 1980 Population and Housing Census,(30) Table 1 shows the percent of occupied housing units that were without water, electricity or toilet facilities (i.e. W.E.T.) in 1980. To facilitate identification of districts that are "worse off" than other districts, worse off by how much, and with mainly which ethnic group, W.E.T. non-availability has been tabulated by 25 administrative districts (with urban-rural breakdowns for Kuching, Sibuan and Miri); summary figures for Sarawak and Malaysia have been included also for comparative purposes. For purposes of inter-regional comparison, a summary index for W.E.T. has been calculated. Figure 1, thus, graphically shows that the "best off" district is Kuching and the "worst off" district is Julau. What is interesting is the great number of districts (21 of them) with indices above the Sarawak 0.56 average. Notable also is the wide variability between the districts (e.g. Julau's 0.90 as compared with Sarikei's 0.62 in the Sixth Division). Problems of high indices affect all ethnic groups like the Iban in Julau (0.90 index), Malays in Sarikei (0.82), Melanau in Oya/Dalat (0.77), Bidayuh in Bau (0.77), the Other Indigenous in Belaga (0.77) and the Chinese in Binatang (0.74). These illustrative examples have to allow for the fact that, for example, although Binatang is mainly a Chinese District, the 0.74 index might be contributed mainly by the non-Chinese ethnic groups; further studies on ethnic-access relationships are required in this direction.

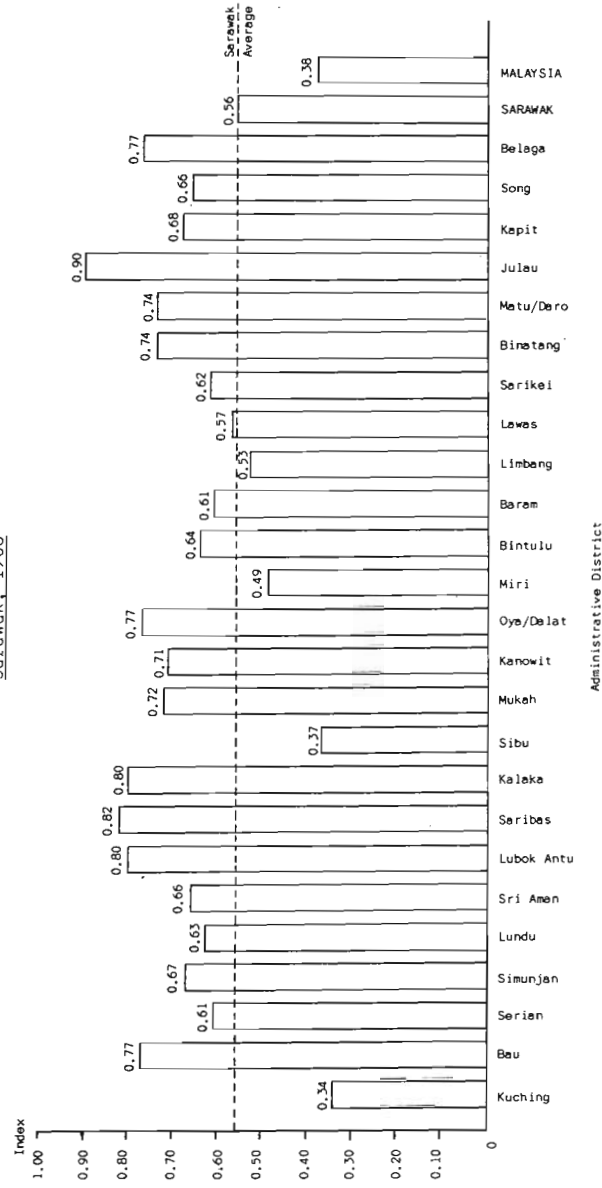
Table 1: Percent of Sarawak Housing Units without Piped Water, Electricity and Toilet Facilities, 1980

Administrative District	Housing Units	Main (Ethnic Group) ^(c)	Percent of Occupied Housing Units without		Index of W.E.I. Non-availability ^(f)
			Piped water ^(a)	Electricity ^(c)	
SARAWAK	206,705 ^(d)	Iban (29.8)	54.2	54.4	58.7
Kuching	46,267	Chinese (62.1) - Urban Malays (39.2) - Rural	26.8	32.5	43.4
Belaga	5,292	Bidayuh (52.5)	86.3	86.6	59.1
Sriau (Upper Sadong)	10,463	Bidayuh (59.8)	45.6	49.1	52.6
Sriau (Lower Sadong)	6,235	Malays (53.9)	64.0	73.2	59.2
Lundu	3,638	Bidayuh (84.5)	46.4	82.2	60.8
Sri Aman (Simanggang)	12,531	Iban (82.2)	58.2	65.6	75.6
Lubok Antu	3,662	Iban (83.7)	68.1	85.7	86.2
Saribas	7,066	Malays (48.6)	82.3	71.9	91.1
Kalaka	6,060	Iban (57.0)	76.5	74.6	84.5
Sibu	20,325	Chinese (71.5) - Urban Iban (44.2) - Rural	34.5	35.1	39.6
Mukah	5,975	Iban (53.9)	69.6	74.9	72.2
Kanowit	4,415	Iban (67.6)	82.9	83.9	66.5
Oya/Dalat	3,781	Malays (52.3)	81.1	72.5	78.4
Miri	17,874	Chinese (45.9) - Urban Iban (50.6) - Rural	51.0	42.1	52.7
Bintulu	9,073	Iban (50.6)	61.3	61.1	69.1
Saram	7,987	Other Indigenous (57.5)	52.7	78.6	52.0
Limbang	3,787	Other Indigenous (52.8)	43.1	62.6	52.9
Lawas	2,958	Other Indigenous (49.7)	47.3	67.9	55.2
Serikei	7,022	Chinese (57.9)	66.1	59.9	65.4
Bintang	4,644	Chinese (57.2)	75.2	76.0	71.7
Metu/Daro	2,176	Malays (84.7)	99.4	52.8	69.1
Julu	4,787	Iban (93.1)	95.8	92.2	81.2
Kapit	5,946	Iban (86.0)	47.5	86.1	71.7
Song	2,711	Iban (91.0)	41.1	91.8	63.8
Belaga	1,450	Other Indigenous (89.6)	56.1	93.3	81.2
MALAYSIA	2,322,565	(b)	35.0	35.6	43.6

Notes

- (a) Based on the First Stage Housing Census. Average number of households per occupied housing unit in 1980 was 1.09, lower than Sabah (1.16) and Peninsular Malaysia (1.10).
- (b) The main ethnic group for Malaysia cannot be identified, because, while separate figures for Malays (the main group in Peninsular Malaysia with 56.0 percent) are available for Peninsular Malaysia and Sarawak, they are grouped under 'Indians' in Sabah. All figures are based on the Second Stage Count, unadjusted for under-enumeration.
- (c) Includes water from well, pump, river, perit, drain, canal and "others".
- (d) Includes pressure/gas lamp, oil lamp and "others".
- (e) Includes bucket, pit, enclosure over water and "none".
- (f) This composite index assumes equal weights for the three amenities. Total non-availability of these amenities will yield an index of "1.00", whereas total availability of all amenities will result in an index of "0.00".

FIGURE 1 : Index of W.E.I. Non-Availability Sarawak, 1980



Administrative District

Some Thoughts on Sarawak

As of 1980, about 60 percent of the Sarawak population were still dependent on the agricultural sector(31) and the incidence of poverty still towers high in this sector. In fact, the MTR for Sarawak shows this incidence at 59.4 percent in 1982.(32) Quantitatively, this incidence should be higher, because it includes the forestry sector incomes which are generally much higher. Also the number of poor in agriculture continues to make up 79.3 percent of the total poor in Sarawak in 1982, a 7.5 percent points increase from the 1976 share of 71.8 percent.(33) The Iban and Bidayuh who made up 63.0 percent of the 1980 state economically active in agriculture(34) continue to have, in 1982, high poverty incidences of 48.7 percent and 64.9 percent, respectively.(35) Although their combined percentage share of total population dropped by 1.2 percent points from 39.7 percent in 1970 to 38.5 percent in 1980, their percentage share of total poor increased by 18.4 percent points from 56.6 percent(36) in 1976 to 75.0 percent in 1982.(37)

The deduceable low growth in agricultural income during the past two decades is also reflected by the fact that the Gross Domestic Product (GDP) performance of agriculture (excluding forestry and logging) has been consistently declining from annual growth rates of 2.6 percent during the SMP to 1.5 percent during the TMP, and more recently to even -3.4 percent during the FMP (1981-1983).(38) This decline in growth rate is compounded by the fact that its "value added," adjusted for constant price by using the 1970 base, has also declined in absolute terms from \$192.0 million in 1980 (the end of TMP) to only \$170.0 million in 1983 (FMP). This trend is further accompanied by the continuous fall in the percentage contribution of agriculture to Sarawak GDP from 16.2 percent in 1971 to only 7.8 percent in 1983; in fact, the most recent 1984 figure (on 1978 base) shows that the decline has continued to the 7.1 percent level.(39) The percentage point drop between 1983 and 1984 was 0.7, surprisingly consistent with the same average drop of 0.7 per annum between 1971 (beginning of SMP) and 1983 (middle of FMP). If this trend continues, agriculture contribution to GDP will be 5.7 percent in 1986 or only 2.9 percent in 1990.

Even in terms of external trade, agricultural products contributed only a negligible 3.0 percent of Sarawak total trade in 1985 (January to October)(40) as compared with 11.0 percent in 1971 (January to December).(41) In absolute terms the 1985 export value of \$247.4 million,(42) if divided by the 890,000 population dependent on agriculture, will give a monthly per capita figure of only \$23.0; this is even lower than the \$34.3 figure in 1971 (beginning of SMP).(43)

Each development plan allocates hundreds of millions of dollars for agricultural development. The FMP original allocation, for example, was \$439.90 million for agriculture and rural development alone, but this was later revised to \$395.45 million;(44) on a monthly per capita basis, this works out to be about \$39.0 for the agriculture dependent population during the whole plan.

On the other hand, the 1983 per capita contribution to Sarawak GDP from agriculture works out to be only \$17.0 per month (at 1970 constant price) or at most \$31.0 per month (at 1978 constant price). For comparative and evaluative purposes, it is interesting to note that the Economic Planning Unit's poverty line for Peninsular Malaysia in 1979 was already \$55.0 per capita per month (i.e. \$282.0 per household monthly, and assuming 5.1 persons per household);(45) assuming only a 7.0 percent increase per annum, this line would have risen to \$72.0 in 1983. But this line should be higher for Sarawak, because of the known higher costs of living; adjustments for a price differential of, say, by 10.0 percent, will put the Sarawak line in 1983 at \$79.0. Even after allowing for a lower poverty line in rural areas, the \$79.0 dividing line is still very much above the GDP figure of \$31.0. The number of poor and the level of income deficit on this illustrative computation must be uncomfortably high for agricultural households.

Important to note also is the great disparity in poverty incidence between the more traditional and rural-based "Agriculture" and, say, the relatively modern and urban-based "Electricity, gas and water" sector; the 1982 poverty incidence for the former was 59.4 percent, while the latter was only 2.5 percent.(46) What is indicative, therefore, is the high level of income inequality between industries, occupations, ethnic groups, and regions (e.g. urban and rural).

The above preliminary analysis on Sarawak is no doubt illustrative only in nature, because of the lack of published income figures. Also, the per capita GDP indicator provides only a crude indicator of relative magnitudes. Moreover, the externality measure of poverty in terms of access to public services has not been analyzed. Available indicators from the 1980 Population and Housing Census figures on amenities, however, do not appear to indicate that Sarawak is well-off in terms of access to piped water (47.8 percent), electricity (41.6 percent) and toilet facilities (41.3 percent); in fact, the percentages will be much lower if they are calculated for rural areas only. For example, Table 1 shows that 91.1 percent of the predominantly Malay Saribas District does not have access toilet facility in 1980. Non-availability of water, electricity and toilet by district is shown in Figure 1.

The above thoughts on rural poverty with illustrative references to the agriculture sector do not imply that urban poverty is not important. In fact, FMP recognizes the importance of urban-rural linkages and the fact that "the total number of urban poor increased principally due to rural-urban drift." (47) To illustrate a possible method of identifying and quantifying urban poverty in Sarawak, the only available published statistics usable for this purpose (i.e. the Household Expenditure Survey (HES) in Sarawak covering the six main towns of Kuching, Simanggang, Sarikei, Sibul, Miri and Limbang) were used. Table 2 shows how the Engel coefficient (percent of expenditure allocated to food) experiences a downturn after the "200-299" expenditure class, indicating \$300.00 as the poverty line. Ideally, households should be grouped according to per capita income class. The per capita expenditures corresponding to the income class in which Engel coefficient begins to fall may then be interpreted as the dividing line below which will be the poverty groups. But per capita income figures are not available, so that an analysis of expenditure distributions remains the best alternative. It has, in fact, already been discussed earlier in this paper how, in many ways, the expenditure approach is better than the income approach. Figure 2 shows graphically the pattern of expenditure distribution in Sarawak urban, the percent of households identified as poor and the amount of income deficit.

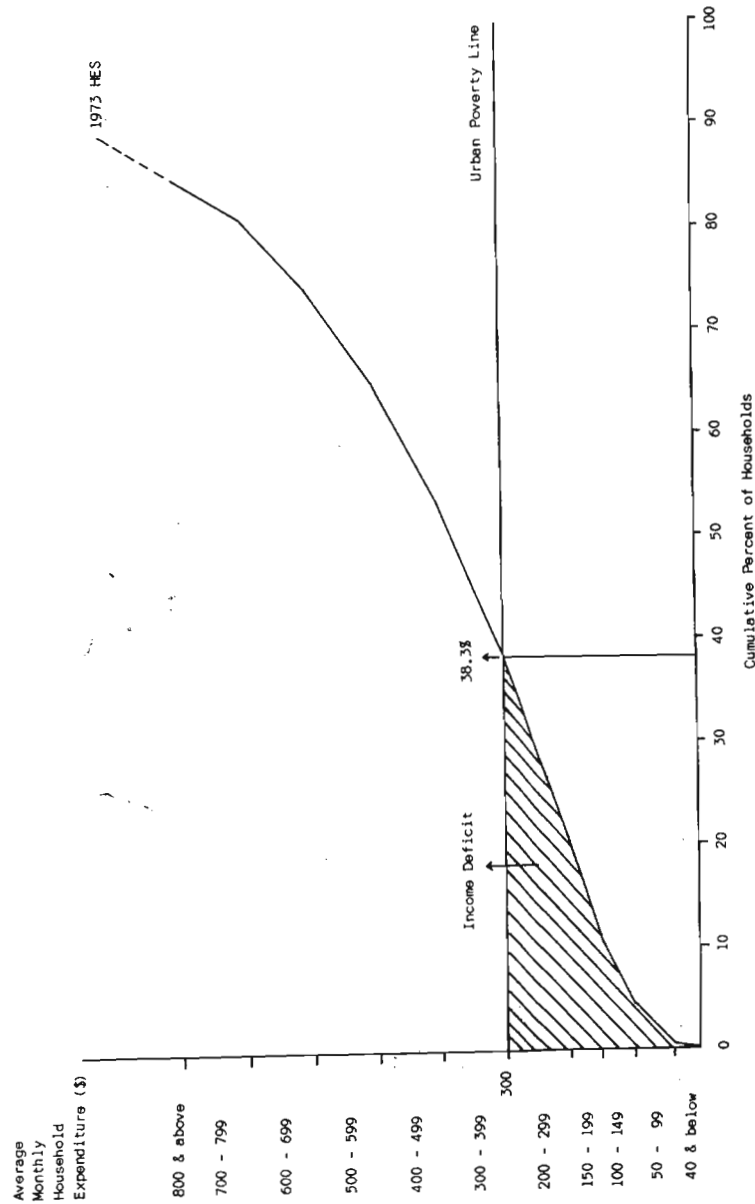
Table 2 : Identifying Urban Poverty Line in Sarawak, 1973

Monthly Household Expenditure Class	Percentage Distribution	Household Size	Per Capita Monthly Expenditure (\$)	Engel Coefficient
40 & below*	0.4	1.44	26.36	54.1
50 - 99	3.9	2.44	32.52	39.0
100 - 149	6.4	3.23	40.20	40.2
150 - 199	9.3	3.56	48.96	42.6
200 - 299	18.3	4.89	51.31**	45.3
300 - 399	15.0	5.54	62.24	42.1
400 - 499	11.8	6.22	71.76	41.1
500 - 599	8.9	7.39	74.12	41.3
600 - 699	7.0	6.84	94.30	35.1
700 - 799	4.0	7.16	103.94	36.7
800 & above*	15.0	7.62	190.56	24.0
Total Households	100.0	X	91.73	33.7

* Note that these are open-classes.

** Ishak Shari's (1979) urban poverty line for Peninsular Malaysia (based also on the 1973 HES data) was \$47.88 for a household size of 5. The Sarawak figure (also for a household size of 4.89 or around 5), of \$51.31 is only 7.2 percent higher, easily accounted for by higher costs of living in Sarawak. Comparatively, the two figures are interestingly similar.

FIGURE 2 : Identifying Urban Poverty Line in Sarawak, 1973



The above analysis could be extended to include rural for urban-rural analysis, different distributions for different ethnic groups, updated distributions for monitoring the inter-temporal changes, and even separate distributions for each of the administrative districts in Sarawak. All these, of course, will depend a lot on the availability of statistics detailed enough to allow meaningful analysis.

For action programmes to be effective, detailed analysis at lower geographical areas are required to identify and describe the poverty target groups. Poverty analysis could, therefore, work towards the ideal of having, in Sarawak, poverty-related data at the district level; limited human, technical and financial resources might dictate that this statistical exercise be implemented in stages, starting with priority districts or poverty groups first.

Conclusion

Little has been researched and written on the subject of poverty in Sarawak.(48) This could be due in part to the complex nature of the subject, and in part to the lack of data. It is hoped that with the analysis in this paper, readers have a clearer and more critical understanding of not only what poverty is about, but also of what data are needed and how they could/should be computed.

Because of the greater availability and utilization of data in Peninsular Malaysia, relatively more has been researched and written. Not only can Sarawak benefit from the findings and results of Peninsular Malaysia, but also there is much to learn in terms of what methodological alternatives are available and with what pitfalls. Beyond Malaysia, poverty analysis can benefit not only from the inter-country work done by an international body like the World Bank, but also from researchers in developing countries like Indonesia, Thailand and Bangladesh.

Understanding what the subject of poverty is about, and knowing what lessons Sarawak can learn from other states or countries represent a good start, but are inadequate in themselves. Positive actions have to be initiated toward the conceptualization of acceptable methodological frameworks that could be operationalized for the statistical computations of various poverty measures. The identifica-

tion and computation of poverty in absolute, relative or externality terms are incomplete without other supportive statistics like population and employment statistics. Having set up the statistical base for poverty identification, mapping and profile characterizing, the poverty study has to allow for the fact that there will be constant needs for new data. For a start, there may be critical dynamics that require further analysis (e.g. income-access relatives among squatters in, say, Miri town). Secondly, updated data are also required for monitoring and inter-temporal comparative purposes (e.g. in terms of absolute poverty, have the Ibans in Julau district improved their position in 1985 since the beginning of, say, TMP ten years ago). Finally, the need to evaluate the effectiveness or efficiency of certain poverty-reduction action programmes could require statistics not available in the original poverty data-base. The whole poverty study should incorporate an integrally built-in Statistical System for answering decision-making questions on the what (e.g. what is the acceptable absolute poverty line in Sarawak), how (e.g. how was the line computed), how much/many (e.g. how much is the income deficit and involving how many people), why (e.g. why the relatively defined poor are poor), when (e.g. to determine what is the size of poverty-reduction action programmes in terms of, say, water accessibility in a particular district, we need to project the poverty target group by the year 1990), and where (e.g. where are the localities in, say, Belaga District affected by absolute poverty) aspects of poverty.

The above require not only the pooling together of scarce human resources competent in poverty studies, conduct of regular micro-studies to verify or refute emerging hypotheses, identification and utilization of existing data, but also the institutional set-up to ensure that the whole poverty study is a continuing and developing exercise. It should not, as often happens in developing countries, start and end with the calling of committee meetings or presentation and shelving of study reports. Only in these ways can we be ensured that our good intentions reflected in the objectives and resource allocations of development plans are carefully conceptualized, implemented, monitored and evaluated.

After four Malaysian development plans and after two decades, it is important for both planners and development

analysts to take stock that the challenge against poverty, however defined, is still great, be it in terms of poverty-reduction or poverty-avoiding; but the need to accept this challenge is even greater. It is in recognition and acceptance of this fact that the main thrust of the Fifth Malaysia Plan (1986-1990), will continue to be on the eradication of poverty in rural areas, while various socio-economic programmes will be implemented with greater intensity.

NOTES

1. FMP (1980), P1
2. MTR (1984), P76
3. Christoffersen(1978), PP18-22 discusses the World Bank strategy or rural poverty though "new style" projects evolved with emphasis on directly raising productivity of the rural poor.
4. Lim (1982), in his review of SMP comments that the "programme to eradicate urban poverty is highly dependent on the programme to erase rural poverty" P630.
5. See Krausse's (1982), social study of urban poverty in Jakarta kampungs using a probability sample of 2,490 households in 1972 and 1977, as an example of this.
6. See Smolensky (1966), analysis of the social consequence or disutility of poverty to the rest of the community.
7. Webb (1976), P20.
8. In fact Ali (1978), in his evaluation of poverty eradication during the TMP argues that poverty oriented agricultural programmes "cannot be selective in their spread effects" P3.
9. Ahluwalia (1976), P338.

10. For studies on Malaysia income distribution or inequality, see Anand (1973), Lim (1974), Ragayah and Shari (1978) and Snodgrass (1975) (1978). The growing income disparities are reflected in the rising Gini ratio from 0.47 in 1957-58 to 0.51 in 1970.
11. There are various approaches towards inequality measurement. Oshima (1970), explains that although the Gini concentration ratio (CR) based on the Lorenz curve is generally used for income distribution analysis, it overstates the importance of both the low and high incomes relative to the middle incomes, via the process of cumulation. This upward bias is shown by comparing it to his three alternative statistical measures.
12. Webb (1976), PP11-12.
13. Rein (1970).
14. Webb (1976).
15. Townsend (1954), discusses a number of such conceptual difficulties.
16. Oshima (1977).
17. Shari (1979), Table 2.
18. See for example, Monthly Consumer Price Index for Sarawak (1985), P6.
19. Webb (1976), PP13-14.
20. Orshansky (1965).
21. Shari's (1979), estimate of EPU 1973 figures here of \$35.67 is based on the 1977 figure, deflated by 32.0 percent for consumer price increase between 1973 and 1977.
22. Institute of Public Administration or INTAN (1980), P14 which shows EPU poverty line for: (a) 1970 at \$200.00 per month or about \$37.03 per capita, (b) 1975 as \$250.00 per month or about \$37.16 per capita, (c) 1976/77 as \$272.00 per month or about \$52.31 per

- capita, (d) 1979 as \$282.00 per month or about \$55.29 per capita.
23. Webb (1976), shows how this was computed for Peru in 1971-72 by applying calorie unit costs to the FAO daily minimum requirement of 2,410 calories. The cheapest combined sources of calories and protein were rice and beans. A calories unit cost that was 20.0 percent higher than that for rice was used to allow for possible numerous combinations of rice and/or beans with amounts of other foods having specific nutrient contents and in common local use. For minimum non-food costs, they were assumed to be the actual expenditure of the poorest decile of the family income distribution.
24. Shaari (1979), P424.
25. Alamgir (1974).
26. Mujahid (1977), PP451-454.
27. Webb (1976), PP36-37.
28. See Ballance and Gunn (1984), in their study of WHO appraisal system for drinking water and sanitation projects.
29. World Bank Paper (1975), P8.
30. Census of Housing, Malaysia 1980 (1981), Tables 6, 7 and 8.
31. 1980 General Report of the Population Census (1983), Table 7.20 shows 61.0 percent (or 279,000 persons) of the experienced labour force that (aged 10 and over) were engaged in agriculture in 1980. Assuming 2 earners per household (with household size of 5.6 persons) and assuming all their members were agriculture dependent, there would be a dependent population of around 781,000 or about 60.0 percent of total population.
32. MTR (1984), Table 3.6, P89.

33. FMP (1981), Table 3.6, P50.
34. 1980 State Population Report, Sarawak (1983), Table 6.6 PP850-851.
35. MTR (1984), Table 3.5, P87.
36. FMP (1981), Table 3.58, P49.
37. MTR (1984), Table 3.5, P87.
38. Annual Statistical Bulletin, Sarawak for 1979 (1980), 1982 (1983) and 1983 (1984), in Tables 16.2, 15.2 and 15.2, respectively.
39. Annual Statistical Bulletin, Sarawak, 1984 (1985), in Table 11.2, PP161-162.
40. Sarawak Preliminary Figures of External Trade (1986), P75.
41. Annual Statistical Bulletin, Sarawak, 1972 (1973), P75.
42. The monthly per capita export value of \$34.3 is derived by inflating the 1971 per capita value of \$12.0 by the published Consumer Price Index increase of 7.8 percent per annum during the 1971-1985 period.
44. FMP (1981), Appendix A.
45. See footnote 22 above. Note also the bigger household size in Sarawak (5.62 in 1980).
46. MTR (1984), Table 3.6, P89.
47. FMP (1981), Para 69, P69.
48. Other research studies on Sarawak by the same author can be found published in Ko (1986, 1985a, 1985b, 1985c, 1984).

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KAYAN LAND TENURE

JÉRÔME ROUSSEAU
McGill University

INTRODUCTION

In the last issue of the BRB, Appell (1986) considers the question of Kayan land tenure. He states (p. 119) that I am in error when I say "that among the Kayan no devolvable usufruct[u]ary rights are created by the clearing of primary forest (e.g. Rousseau 1977:136)", then continues his discussion without any further reference to my paper. That paper drew on two years' fieldwork in the middle Baluy, during which I gave detailed attention to socio-economic aspects of agriculture. The issue of land tenure was obviously of importance to my analysis of Kayan social organization. On the other hand, Appell's "field inquiries" (ibid.:119) about the Baluy on which he rejects my data, consisted of his speaking with a single "Kayan informant from the Balui region then living in Kuching" (ibid.:123). Is this a sufficient basis for baldly stating that I am in error, without considering any of the evidence I present?(1)

LAND USE AND LAND TENURE IN UMA BAWANG

Let us first examine the available facts. When I started fieldwork among the Uma Bawang Kayan of Long Murum, I expected that the clearing of primary forest would create devolvable usufructuary rights. In order to ascertain the devolution practices and the juridical principles behind them, I enquired about the history of the plots which were currently under cultivation in 1970. The overwhelming majority of the fields had previously been cultivated (only one small area was newly cleared primary forest).(2) My first surprise was to find that the boundaries of the current plots were not necessarily the same as when they had been used previously. I was struck even more by the fact that in many cases, the user of the field was unsure of the identity of the previous user, and had to find out the information from third parties. My informants had no difficulty understanding the drift of my questioning --for reasons which will become evident in a moment-- and informed me that because of the ready availability of land, there was no need to retain control over previously cultivated land, and that this was not a consideration when selecting a new field.

In 1971, I was present at a number of private discussions and the public meetings where the choice of farm areas was discussed; not once was the question of previous ownership of land brought up. The discussions focused entirely on technical issues: fertility, ease of access, proximity of farm houses built in the previous year, proximity of various natural resources, etc. When areas had been chosen, individual field boundaries were established by common agreement or prior claim. In other words, in practice, most boundaries were established on a basis of mutual convenience, although in law the fact of marking a boundary establishes a right of usufruct for that year.(3) The size of each plot was determined by the needs and expectations of each household (consequently, there was a correlation between the number of agriculturally active members in a domestic unit, and the rice output [Rousseau 1977:144-145]).

Not surprisingly, there is a relationship between land tenure and farm boundaries. Insofar as there is no individual ownership of previously cultivated land, it is not

necessary that the boundaries of plots be the same every time an area is cultivated. It might be noted that while farm boundaries mostly follow natural features (ridges, gullies, boulders which mark a corner, etc.), these features are not determinant. The environment provides many potential markers, only some of which are used. In any case, man-made markers (atep) are placed to establish a claim whenever necessary.

The availability of land also affects agricultural practices, as is evident if one compares my maps of Uma Bawang farm areas (Rousseau 1974:120-121) with Freeman's (1970:166) map of Rumah Nyala farms. Iban fields are considerably more scattered. This has practical consequences when the fields are fired, because the likelihood of a good burn is such higher if fields are contiguous. This is the reason why the Baluy Kayan select farm areas collectively, and as they need not select plots on which they would have some legal claim, they have no problem in doing so. Insofar as the Baleh Iban must cultivate a plot of land which belongs to their bilek, their choices are considerably more limited, and the scattering of fields depicted by Freeman's map makes perfect sense (I am not saying that the Iban could not concentrate their fields in a limited number of areas, but simply that they could not do so as easily).

One can note another interesting difference between Uma Bawang and Rumah Nyala. Among the latter, with a single exception, each bilek has a single farm (Freeman 1970:168, fn.), while in Uma Bawang a number of households (amin) have fields in more than one farm area. They do so for two reasons: a) as the yield might vary from area to area, such a strategy minimizes risks; b) it facilitates the management of cooperation teams (Rousseau 1977:137-139, Rousseau 1974:124-127, 327-335).

So far, the discussion has focused on a domestic unit's control over agricultural land. The community's control over a territory is chronologically and jurally prior to such domestic rights of usufruct both for the Iban (Freeman 1970:105) and the Kayan. In both cases, a community's rights over a territory are dependent on use, and if it migrates, those rights lapse.(4) While a community exercises control over a tract of land, it does so

exclusively; the area may not be cultivated without permission by members of other villages, and such permission must be sought from the chief of the village. On the other hand, nomads may hunt unhindered on the territory of Kayan agriculturalists.

LAND TENURE AND THE CLEARING OF PRIMARY FOREST

Appell (1986:119) makes an understandable mistake when he misinterprets me as saying that among the Baluy Kayan, no devolvable usufructuary rights are created by the clearing of primary forest. I might have elaborated on my statement that the Baluy "Kayan have developed no individual rights of ownership or usufruct over land previously cultivated" (Rousseau 1977:136). There is a subtle but significant distinction: the present inhabitants of the middle Baluy have cleared little primary forest on their present village territory. Most of a village's agricultural land was previously used by some other group --Kayan or otherwise-- which has now moved elsewhere. Thus, in practice, the question of usufructuary rights created by clearing primary forest rarely arises, which is why I focused on the more relevant question of the devolution of previously cultivated land.

The general principle is that labourers should benefit from the product of their work. How is this principle applied?

- a) Not surprisingly, an amin has exclusive control of the product of its fields. Practically, this is where the matter stops in most cases: the field is left fallow, and can be cultivated by anybody the next time around.
- b) However, in some cases first- or second-year growth (ba'e) is cultivated (Rousseau 1977:136-137) by the same user, who has a clear right to such land (the cultivation of ba'e forms a negligible proportion of the fields).
- c) While the question of usufructuary rights created by clearing primary forest rarely arises in practice, it is not irrelevant. One informant suggested that the

person who clears a tract of forest retains rights over it, and that if someone else wants to cultivate it, he should first ask permission from the former. My informant added that "if it is evident that the original owner does not want to use it, one can use it without asking. In this case the original owner loses his rights over the land. However, if it is a good land, the original owner will not let others take it over --and the latter will probably not dare use it without permission."

How are we to interpret this statement? It does not state that a permanent, transmissible right has been created. The logic is the same as for the ba'e, where a farmer has a clear prior right over land he cleared one or two years ago, because the results of his labour remain evident. In the same way, a parcel of secondary jungle which has only been cultivated once previously may be more fertile than other fields, and the individual who cleared it in the first place should be allowed to benefit from his labour. The fact that I encountered no case of this, and that my informant was unable to cite any specific example, does not limit the theoretical significance of this principle, which is essentially a non-renewable right of preemption on the basis of previous labour. However, it certainly puts the matter in context; because of the availability of land, such a principle rarely needs to be invoked, and is thus a very minor constraint on social life. On the other hand, I would not be surprised to see that principle activated if conditions became more crowded.

IS THERE A KAYAN SYSTEM OF LAND TENURE?

Appell's article is based on the assumption that all Kayan must have the same system of land tenure. This is the only conceivable reason for his assumption that my description of the Baluy Kayan is erroneous. Such an assumption is puzzling, as it implies that legal systems exist in some empyrean, and are necessarily part of a culture. Similarly, he seems to assume that all Kenyah have the same system of land tenure (Appell 1986:121). Such a culturalist assumption could explain why Appell would be so ready to reject the results of two years' fieldwork on the basis of conversations with a single Kayan informant: if land tenure

were a cultural matter, any member of the culture might be expected to have the appropriate knowledge—as is indeed roughly the case for such system as language. But of course there is no reason why all members of a "culture" must have the same social organization. This point is obvious from a reading of Political system of highland Burma. Finally, even when a rule exists in principle, we cannot understand its significance without knowing how it is applied in practice.

As regards land tenure, there is published information, based on fieldwork, to show that the situation is different among the Kayan of the Mahakam: "once an area has been cultivated, it belongs to the one who worked on it, even if it is abandoned for years. In the Mahakam, such land is not sold, but can be rented out or exchanged for another" (Nieuwenhuis 1904:159). Similarly, Vorstman (1952:219) says that "it is not the habit for someone to make a ladang where somebody cultivated previously, as long as signs of its remains". He emphasizes that people's rights are rarely infringed, because there is so much land available.

Given the higher population density in the Baram, I find it perfectly reasonable that Baram Kayan establish hereditary rights to the land by cutting down virgin forest (Southwell in Appell 1986:123). This may not always have been so: "Each family cultivates its own patch of land, selecting it by arrangement with other families, and works as large an area as the strength and number of the roomhold permits" (Hose & McDougall 1912, 1:99). Given its vagueness, one should not make too much of this statement, but it could suggest a situation similar to that of the middle Baluy in 1970. It is not surprising that land tenure should vary among the Kayan from one area to the other, availability of land being a crucial factor in such variation. The middle Baluy has a very low population density, and it has been sufficient for communities to establish control over tracts of land without having to resort to devolvable rights attached to individuals, kin groups or domestic units. The situation is different in the lower Baluy, where villages are closer to each other along the river, and where domestic units do keep control over land they have previously cultivated. The Kayan of the middle Baluy are well aware that the situation is different in the lower Baluy. They pointed out that the Kayan villages of Uma Kahai, Uma

Aging and Lirong Amoh have little land, and domestic units keep control over the lands they had previously cultivated. Those who use it without permission are fined; occasionally, someone who badly needs to use someone else's land may obtain permission to do so after making some payment, such as a cast-net chain or a gong. Thus, there is not even a single system of land tenure for all the Baluy Kayan. Furthermore, there is no reason to assume that land tenure rules must vary on a cultural basis. In the Baluy, the contrast in land tenure is between two regions, the lower and the middle Baluy, not between ethnic groups. I will discuss elsewhere the relationship between ethnic identity and social systems, but it is already evident that ethnic identity does not determine social interaction or social systems (Rousseau 1975).

As population density increases in the middle Baluy, we can expect its inhabitants to adapt to the situation by developing increasingly stricter rules that will allow domestic units to keep control over previously used land. However, there is no reason to think that the middle Baluy will switch at once to a single new system of land tenure; rather, we can expect changes to happen village by village. When a system of devolvable usufruct develops among the Baluy Kayan, it seems likely that it will be devisable rather than partitionable usufruct (cf. Appell 1986:123), although the Long Nawang Lepo' Tau model (Whittier 1973:62) is also a possibility, if land were to be equated to heirlooms (cf. Rousseau 1978:83).

IS THE KAYAN DOMESTIC FAMILY A CORPORATE UNIT?

Appell (1986:123) says that he has "not had the opportunity to inquire as to whether or not the Kayan domestic family is a corporate unit." I have dealt with this issue elsewhere (Rousseau 1978:82-83), in a book to which Appell also contributed. The Kayan domestic unit (amin) is a corporate unit, as it has sole ownership of its buildings, tools, and the product of the labour of its members. Not only that, but the amin has an existence distinct from that of its members. For instance, a present-day amin is considered to be the same entity as an amin of, say, 100 years ago, insofar as one is able to trace its continued distinct existence. This is parallel to the Kayan idea that a

community is not simply a place where a number of people live at a given moment, but an entity which persists through time and retains its identity --and its name-- even when there has been a complete change of personnel through the generations, and after several migrations.

CONCLUSIONS

1. The Kayan as a whole do not have a single system of land tenure. Among the middle Baluy Kayan, domestic units do not as a rule control previously cultivated land, while the Kayan of the Mahakam (i.e., the Busang) do, and also apparently those of the Baram and the Kayan river.
2. Systems of land tenure are to a large extent a consequence of the availability of land,--although they are more than that--and can thus change through time. From this it follows that land tenure systems are not a characteristic of a cultural group, but of a particular socio-ecological and economic environment. In view of the rapid population increase in the Belaga district, one can expect the development of a more elaborate land tenure system (if and when the Bakun dam project is realized, this will happen even sooner).
3. Land tenure rules are part of the legal system; they can be understood only if we know how they are used. It is unwise to study such rules out of context, and especially to describe them as if they had the characteristics of Western legal systems, which are unusual in their rigidity.
4. While it may be conceptually satisfying to seek the justification of devolvable usufructuary rights in the felling of primary forest, this assumption does not correspond necessarily to agricultural practice, nor to the actors' conceptualization of the situation. My fieldwork shows that for the Baluy Kayan the relevant variable is not the felling of primary forest, but the fact of having the right to benefit from one's previous labour.

NOTES

1. Evidently, Appell reached the conclusion that I was wrong because he was told that the cutting of primary forest establishes rights over land among the Kayan of the Baram and the Kayan river. However, this is no excuse for thinking that this invalidates my Baluy Kayan data. I was aware that the situation was different among the Kayan who lived in other part of Borneo, and this is why I started my paper with the caveat that "the following description of Baluy Kayan agriculture does not automatically apply to the other Kayan groups in the other areas they inhabit(...). Varying local conditions may have brought about different adaptations" (Rousseau 1977:129).
2. In 1970-71, only the smallest of the four field areas was on primary jungle; the following year, all fields were on secondary jungle.
3. For this reason, some individuals started marking field boundaries before farm areas had been agreed upon, only to find out that they had wasted their time because the area was not to be cultivated that year.
4. At least they relinquish rights over rice fields; I will deal elsewhere with the matter of fruit trees.

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BRIEF COMMUNICATIONS

OBITUARY

C.G.G. JAN VAN STEENIS

On 14 May 1986 the Dean of the Flora Malesiana and founder of this Bulletin, Professor Dr. Cornelis Gijsbert Gerrit Jan van Steenis, died at the age of 84 1/2 years in a hospital in Leiden. Our sincere condolences are extended to his wife, the famous Mrs. M. J. van Steenis-Kruseman, his son and daughter and all others of his family.

An extensive biography was published on the occasion of his 70th anniversary and consequent retirement as Director of the Rijksherbarium in *Blumea* 20 (1972) 1--6, 514, by his wife and another one by Jacobs (i.c., p. 7--24, while Dr. M. M. J. van Balgooy collected a number of anecdotes from various sources humorously highlighting his foibles.

Since then he unflinchingly continued with his work, in fact being just as busy as he was before his retirement, if not more so, and, chiding us, certainly more productive than most of us, the regular staff members. The numerous publications in various journals are proof of his continued and various interests. (*Flora Malesiana Bulletin*, Vol. 9/3 (Number 39), August 1986, p. 251).

Comments and Corrections

The following comments on and corrections to the Research Notes, "Urban Migration into Sibul, Sarawak," Parts I and II (BRB 17:2, 18:1):

Your observations generally confirm the results of my own field work made in June 1981 at Rumah Nyala, not far beyond the town fringe near Sibul Airport. The survey I made there, covering all households, has a forerunner in 1970 (whose findings were partly published in the BRB, vol. 7, No. 2, pp. 60-70) so that comparison of the data won from both enquiries did reveal certain trends of development which strongly correspond with your conclusions. To sketch a few facts in short: - Rumah Nyala's population has more than doubled in the seventies, mainly from in-migration. Its occupational pattern has become much more "urban" in the meantime, and it was coupled with social "uplift", multiplication of per-capita income, "mass-motorization", commuting, etc., whilst agricultural activities have shrunk to a minimum, counting for less than 1% of the total village income. In other words, Sibul was extremely attractive in the said decade, and likewise it has intensified its contacts to the surrounding countryside.

Your research note, however, bears, some points where I felt than an additional remark could be helpful: - So, e.g., on page 85 your note speaks of a population (of Sibul Municipal?) of "almost 140,000"; in contrast to this, the 1980 Malaysia Census Report, Local Authority Areas, p. 81, counts a total population of 86,860 for Sibul URBAN, and a total population of 134,786 for Sibul URBAN & RURAL. Furthermore, on p. 86 of your note there is word of "about 3,500" Iban in Sibul in 1970; the 1970 Malaysia Census Report, Community Groups, p. 283, counts exactly 2,350 "Sea Dayak" for Sibul Town, and 18,997 "Sea Dayak" for the whole district (ibid., p. 101) - as far as I know the last officially published figures on Iban in this geographical breakdown. (Dietrich Kühne)

I read Part 1 of your article with deep interest and, as before, I list below my comments for your information:

Page 85

- (a) Population of SUDC in 1960 was 29,630 not 39,600 (1960 Census Report, p. 29).
- (b) Population of SUDC in 1980 was 86,860. At a high 5.0% growth rate p.a., SUDC population in 1984 would be 106,091.....quite far from 140,000.
- (c) Growth of Iban in SUDC between 1960 and 1970 was 5.3% p.a. It dropped to only 4.6% p.a. during the 1970-1980 period; this is even lower than the town growth rate of 5.5% during the same period.

Page 86

- (a) In fact, the census data you wanted are available in Kuching. My article on Iban was based on these figures. It is a pity we failed to meet each other then. Our Sibul Office is only a field-centre for data collection.
- (b) Number of Iban in 1960 was 693 not 3-4 hundred; 1970 was 2,350 not 3,500 and 1980 was 6,797 in SUDC population of 86,860. Note that the 6,797 figure included Iban not resident in SUDC but happened to be enumerated there on census date; i.e. these were short-term visitors/shoppers and seasonal/shuttle migrants. At 4.5% growth p.a., the estimated Iban population in SUDC in 1984 would be 8,102 persons.

Page 87

We cannot reject the fact of Iban urban migration to SUDC. But in the case of Sibul, out-migration of Iban is greater than in-migration, such that the District suffered a net loss of 3,804 Iban in 1980.

Page 91

I agree with you that observational "enumeration" of population is "soft". Your percentage include many Iban visitors/shoppers who return to their longhouses, often within a few days.

Page 93

- (a) Many of the employers in the Field Force, Police, and Govt. depts., work in Sibul because of being stationed there, and many do not bring their families with them. It is not correct, therefore, to multiply all employees by five.
- (b) Your 300** figures should not be all multiplied by 5 either, because many of these employees are singles or with small families.
- (c) I cannot, hard as I tried, persuade myself to believe that there were 400 Iban prostitutes in SUDC in 1984.
- (d) Many of the employees reported by employers in SUDC are not in SUDC, but working in SRDC.
- (e) Because of economic recession, many workers, including Iban, are leaving SUDC for Kuching, Miri and Brunei in search of employment.

Concerning Part II of your article, I like to share with you my experience and knowledge of Iban migration (pages below refer to the pages in BRB):

Page 27

According to the 1980 Population Census, only 7.7% of the 10,130 Iban who ended up in urban areas did so because of "starting on a job offered." (1980 Census State Report, Part I, Table 4.4.) I am not sure how the "66 percent" figure is derived.

Page 28

Iban domestics average between M\$150 and \$200 per month is exclusive of payments in kind (free housing, medical, gifts and bonuses during Gawai and Christmas). 'Cheap Iban labour' do not constitute a major force in Sibul labour; only 7.9 percent of Sibul Urban District Council (SUDC) population were Iban in 1980.

Page 29

Total sample for 'Government' should add up to 188 not 177 as published.

Page 38

Two typing errors...

second para: "stated" should be "started".

third para: two "in" missing for "She worked only in Sibu, and had never worked in another town or city."

Page 40

One typing error....

first para: "She then began working in other bars..."

Page 45

Increasing urban migration among Iban is not peculiar to Sibu; on the contrary, Sibu District suffered a loss of 3,804 Iban in net migration in 1980. Only Miri District and Kuching District registered net gains in Iban internal migration. Also, out of the total 43,267 Ibans who ever moved, only 8.5% ended up in Sibu District while 21.7% ended up in Miri District and another 10.7% ended up in Kuching District. I believe a big challenge to the government is how to plan for development in rural areas so that urban migration can be slowed down. (Dr. Ko Tee Hock)

NEWS AND ANNOUNCEMENTS

Solar Eclipse Over Borneo

On March 18, 1988, a total solar eclipse will be visible from parts of South Sumatra, West, Central, and East Kalimantan, and southern Mindanao (see map). I would like to hear from anthropologists who have conducted field work on or near to the predicted path of totality and who would like to discuss the development of a short-term, co-operative and interdisciplinary project which would look at the ways in which the people of several district but closely related cultures experience this unusual celestial phenomenon.

Please note that, on the map, the solid lines enclose the path of totality and the broken line is the center of the path. An observer located along this path will experience a total solar eclipse, and the closer one is to the center of the path, the longer the duration of totality (up to several minutes). For observers located outside of the path of totality, the sun will appear partially eclipsed by a factor of very roughly 5% per degree of latitude/longitude from the path of totality. For example, an observer in Kuching would see the sun about 90% eclipsed and one in Kota Kinabalu would observe the sun about 80% eclipsed.

It can be reached at Fiske Planetarium, Campus Box 408, University of Colorado, Boulder, CO 80309, USA or by phone (303)-492-5003. (Gene Ammarell)

Plant Resources of South-East Asia (PROSEA)

There has always been a need to bridge the gap between the vast amount of knowledge of plant resources and its application in education, extension, research and industry by means of a comprehensive handbook.

Now the initiative has been taken for such a publication with a project "Plant Resources of South-East Asia", in short PROSEA. The intention is to produce a series of publications with up-to date information about plant resources of South-East Asia. About 5,000 plant species are reviewed, divided over 40 commodity groups and grouped in about 30 volumes.

Some or all of the following aspects will receive attention: correct naming, vernacular names, distribution, uses, economic and production data, chemical composition, description and illustration, wood characteristics, ecology, agronomy, silviculture, genetic resources and breeding, prospects and sources of selected literature.

General aspects of each commodity groups are treated in an introductory chapter by the specialist editor of each group.

The inventory of existing knowledge of plant resources of such an extensive areas may well be called unique,

requiring international co-operation at scientific, financial and organizational level.

Readership: Research scientists, extension services, students and industries in any of the fields mentioned.

Commodity Groups

- Cereals
- Root and tuber plants
- Sago and related starch-producing plants
- Pulses
- Vegetable oils and fats
- Edible fruits and nuts
- Vegetables
- Spices and condiments
- Essential-oil plants
- Plants used for beverages
- Plants used for chewing
- Plants used for smoking
- Narcotic plants
- Medical plants
- Plants producing sugars, alcohols or acids
- Timber trees
- Fibre plants
- Feed plants including forage and pasture plants
- Dye-producing plants
- Tannin-producing plants
- Rotans
- Bamboos
- Latex-producing plants
- Resin-producing plants
- Camphor-producing plants
- Balsam-producing plants
- Gum-producing plants
- Wax-producing plants
- Plants producing aromatic resin
- Aromatic woods
- Plants producing poisons, including insecticides and herbicides
- Plants used for making baskets, mats and wickerwork
- Plants used for packing thatching
- Shade and cover plants in agriculture including mulches and green manures
- Hedge and wayside plants
- Fuel plants; charcoal, firewood

Ornamental plants; ferns, cycads, conifers, palms, bulbs, ornamental flowers, orchids, herbs, shrubs, trees, ornamental fruits and seeds, aquatic plants

Lower plants; algae, fungi, lichens, mosses, ferns
Other useful plants (not fitting in the groups mentioned)

Small commodity groups will be grouped into one volume, and large groups might be published in more than one volume

Prices: At this stage it is not yet possible to fix a price for any volume or for the complete handbook. To give out some idea, we consider DM190. -- (ca US\$90.00) a fair price for a hardbound book, 19 x 25.5 cm, of 200 pages. (Koeltz Scientific Books, P.O. Box 1360 & 1380, D-6240 Koenigstein/West Germany.)

Exhibition:

The Tropical Rainforest: A Disappearing Treasure

The world's tropical rainforests house an estimated two-thirds of the world's plant and animal species. The incredible varieties of life found there have inspired painters, scientists, and writers ever since the early days of European exploration. For today's peoples the forests are barely tapped reservoirs of new and old medicines, foods, and industrial supplies. They house genetic resources for the improvement of rice, corn, manioc, and other major cultivated crops. They provide watershed protection for some of the world's largest rivers. They are sources of tremendous moisture and of clouds that affect local (and some believe, world-wide) weather patterns. Some see the rainforests as "unused" lands for the tropical poor and a safety valve to relieve population pressures. Their loss, however, might raise the world's temperature, melting polar ice caps, raising sea levels, and inundating coastal plains.

These truly vital forests are being cleared at a rate estimated at 35 acres per minute- totaling an area the size of Delaware each year. By the end of this century,

rainforests will be largely gone from areas they once covered- the West Indies, Central America, Madagascar, Western Africa, Indonesia, the Philippines, and the Malay Peninsula. THE TROPICAL RAINFOREST: A DISAPPEARING TREASURE, an exhibition organized by the Smithsonian Institution Traveling Exhibition Service (SITES) in cooperation with the World Wildlife Fund, aims to educate the public about the ecological complexities of the tropical rainforest; demonstrate our everyday dependence on products from these seemingly remote regions, the magnitude of a major ecological crisis in the deforestation of these areas, and offer projects and suggestions as alternatives to the current rates of tropical deforestation.

The exhibition will open in the Smithsonian Institution's new International Gallery in March 1988, and then travel to seven locations across the United States through 1991. The exhibition will utilize dioramas, photo murals, back-lit transparencies, video stations, interactive devices, models, ethnographic objects and scientific specimens to involve the visitor in the drama and beauty of the world's jungles as well as the spectacle of destruction. A book, poster and teaching materials will also be provided.

For further information, please contact Martha Cappelletti, Senior Exhibition Coordinator.

SAM

Sahabat Alam Malaysia (SAM) is a non-profit, non-governmental organization campaigning for environmental protection and conservation of natural resources in Malaysia and the Asia-Pacific region.

SAM is a grassroot-based NGO formed in late 1977 when Malaysia had embarked on a path of rapid development and industrialization.

We work closely with affected communities of this development, like farmers whose crops and lands are destroyed by pests and pollution; fishermen whose livelihood are threatened by depleting fish resources; estate workers affected by pesticides.

SAM is also the coordinator of the Asia-Pacific People's Environmental Network (APPEN), formed in October 1983, that links member organizations in India, Pakistan, Sri Lanka, Indonesia, Bangladesh, Thailand, Malaysia, Singapore, the Philippines, Hong Kong, Japan, Australia, New Zealand and the Pacific Islands; and with other regional organizations. (Address: Sahabat Alam Malaysia (SAM), 37, Lorong Birch, 10250 Pulau Pinang, Malaysia.)

Request for Information

I would appreciate any information on "The Massacre Place" in Mandor, West Kalimantan. According to an article by Barbara Crossette in The New York Times (February 3, 1987) up to 20,000 people were executed by the Japanese in 1943-44 at this location 50 miles north of Pontanak. Among those killed were "the cream of Pontianak's middle class: scholars, doctors, former government officials, business leaders - anyone who might one day have opposed Japanese rule".

This genocidal act has been "one of World War II's least publicized atrocities", and it may now be forgotten completely. Apparently the memorial at the massacre site has been changed from reading simply "The Massacre Place" to "Place of Mass Burial". (Laura P. Appell-Warren, 170 Centre Street, Milton, MA 02186.)

Conference on Biological Conservation and Human Ecology

Regarding the proposed Conference on "Biological Conservation and Human Ecology", it is hoped to host a conference on this topic in Sabah in the not too distant future, but this will not be before 1989. Field details will be given in the Bulletin at least a year in advance. (Dr. Clive Marsh)

B O R N E O N E W S

Regional News

BARBARA HARRISSON will retire in 1987. She is staying on in the Netherlands. Please tell all old friends that they are welcome at:

16 Op 'e Terp
9057 RC Jelsum
a village only 5 km. from Leeuwarden.

Her book Pusaka, heirloom jars of Borneo (Oxford Press, 1986) is out, and that during the last months of her tenure in the Princessehof (January to May 1987) she hosted a Borneo exhibition. An entire gallery was devoted to a longhouse-model, large enough for children to walk into, as a background for the Martaban-jars most of which were collected on Borneo a century ago.

MAUREEN A. MALLOY - I am attempting, as well, to locate other researchers working in Borneo. The Smithsonian is now planning an exhibition on tropical rainforests: Cosponsored by Smithsonian Institution Travelling Exhibits (SITES) and the Directorate for International Activities, and in cooperation with the World Wildlife Foundation, the exhibition will show in Washington beginning in May 1988 and then tour to 7 other museums in the U.S. The exhibition is intended to be pan-tropical in scope and will cover biology, human use of the forest and conservation issues. In preparation for my work with the exhibit, I am planning a trip to Borneo this summer which will focus on, but is not limited to, the endangered orangutan and conservation efforts there. I am of course familiar with the work of Birute Galdikas and plan to be at the Tanjung Puting Preserve sometime in late August. I would be grateful for the names of any other scientists you know of who will be in the field this summer and whom I might contact on my trip. Any suggestions would be most welcome. (Dept. of Anthropology, NMNH, mrc. 112, Smithsonian Institution, Washington, DC 20560).

E. H. J. CORNER was awarded the First International Prize for Biology. This prize was established in 1985 by a consortium in Japan to mark the Emperor's longtime

devotion to research in biology and in celebration of the 60th year of his accession. The 1985 award was designated for contributions in the field of taxonomy. The presentation was made personally by the Emperor at the inaugural ceremony on 16-18 November 1985. This award to Dr. Corner was given for his numerous and diverse contributions to plant taxonomy ranging from fungi to figs and recognizes his widely acknowledged status as one of the leading systematists of our time. As he also became 80 on 12 January 1986 we here wish to congratulate him with both occasions!

Check Lists of Indonesian Trees under editorship of T. C. WHITMORE (OXF) and I. G. M. TANTRA (Forest Dept., Bali). In April 1986 the list for Sumatra was ready to be printed. The lists for Celebes and Nusa Tenggara were in the typing stage. Manuscripts for the Moluccas, Borneo and New Guinea are virtually complete. The project has prematurely ended, however, due to a drop of 40% in the Indonesian development budget. It is to be hoped that this is temporarily so and that the pieces can be picked up again the future.

W. JULICH (L) studied mycorrhiza fungi of Dipterocarpaceae. He discovered that a Riessia sp. is a symbiont of some species of Hopea and Shorea. The genus was until now only known from three rare saprotrophic or parasitic species of Europe, North America and Brazil, none of which forms mycorrhiza. A publication of mycorrhiza fungi of Borneo was made.

M. RIFAI (BO) continued his studies on Sporisorium.

J. C. REGALADO JR. under the supervision of Dr. J. BEAMAN has started a revisional study of the species of Medinilla of Borneo for his Ph.D. We wish him success and perseverance in this large, complex genus.

R. SCHOUTEN (L) has finished his revision of Gymnacranthera with 7 species, of which 2 new: one from Borneo, the other from Celebes.

Kalimantan News

P. S. ASHTON visited M. LEIGHTON at a research site at Gunung Palung National Park, Sukadana, in West Kalimantan. This is a coastal granite massif immediately South of the Kapuas Valley and at the northern fringe of the triangle of continental igneous core rocks which extend into West and Central Kalimantan. His own interest was to search for taxa previously known only from Malaya and Sumatra, and also for representatives of the distinct Northwest Borneo (and sometimes East coastal Malaya) elements. Reality never confirms expectations. The G. Palung granite is much more siliceous than usual for Malaya. The widespread Sundaland flora, characteristically a clay soil flora, appears to be restricted to well-drained alluvial levees at the base of the hill. It would be in this habitat that the Sumatran-Malayan element would turn up, and he did find Shorea ovalis ssp. sericea, a first record for Borneo, growing there fairly commonly. Future visitors will, Ashton hopes, look out for S. lepidota, S. macroptera ssp. macroptera and S. singkawang, which he would now consider possibilities. A search of the extensive lowland forests, in the Park, and to the Southeast of the mountain could be productive. In spite of the leached soils the Northwestern Borneo element was very poorly represented among the dipterocarps.

The coastal granite species S. gratissima was there, though its nearest known localities are Singapore and Northeast Sabah. Further exploration of the coastal faces of the mountain would certainly be worthwhile.

In March 1986 Ms. H. SABAJO-HAGG joined the team of Dr. M. LEIGHTON (A) at Gunung Palung (West Kalimantan). She is to investigate the dispersal of seeds and fruits especially of Annonaceae, Meliaceae and Sapindaceae. She will be guided in her studies also by Dr. M. M. J. VAN BALGOOY (L). The latter visited the area in May and June, together with Ms. J. VAN SETTEN (U) who is working on the Annonaceae.

Conserving the Wetlands. Wetlands throughout the tropics are vanishing with the help and expertise from the world's richer nations. Out of the nearly 200 large-scale wetland reclamation projects now completed or under way worldwide, any serious study has been made in nine cases, only, of the environmental and ecological consequences.

Wetland reclamation projects at least partly financed by development aid agencies in Asia are a.o.: 570,000 ha in South Sumatra and Central Kalimantan, for transmigration projects; another 9,000 ha in the "Indonesian Swamp Reclamation Project I", in S. Sumatra and 30,000 ha in the "I.S.R.P. II", also in S. Sumatra, all financed by the World Bank. The American Agency for International Aid (USAID) is currently financing many multi-million dollar irrigation projects which may affect wetlands, including at least four in India and others in Sri Lanka, Indonesia, and the Philippines. Recently USAID has been convinced by non-governmental organizations to adopt a good new environmental policy concerning the multilateral development banks, requiring those banks to adhere to the principles of the World Conservation Strategy. IUCN is now looking for ways by which to cooperate closely in order to influence the policies and actions of multilateral agencies and projects that are funded by a number of agencies to prevent unnecessary destruction of wetlands and to support activities which further wetland conservation. (IUCN Bulletin 16, 1985)

The Third International Round Table Conference on Dipterocarps a short report:

The hosts, the Mulawarman University and the International Working Group on Dipterocarpaceae can look back on a successful event. The conference was attended by many biologists and students of forestry, especially from the region. After the opening ceremony on 16 April 1985 with a remark by the governor of East Kalimantan and a keynote address by the Indonesian Minister of Forestry sessions were held for the rest of the week. Among the many subjects were Forest composition and structure; Systematic problems in dipterocarps; Dynamics and regeneration; Reproductive biology, germination and propagation; Soil properties and microbiology; Forest recovery after perturbation (mainly devoted to the effects of the forest fires in Kalimantan and Sabah); Tree and forest management. Excursions were made to the University's forest plot in Lempake, which was not entirely destroyed by the fires, and to the Bukit Suharto Protection Forest. In the latter a good impression of a primary dipterocarp rain forest (e.g. with Vatica scaphifolia) could be obtained in the few hectares that have survived the forest and illegal logging (of the 19,000 ha \pm 80% has been destroyed). Along the

road between Samarinda and Bukit Suharto (halfway to Balikpapan) there were nothing but dead trees as far as one could see, and a secondary vegetation with much Callicarpa, Gleichenia, Melastoma, Musa, and Vitex covered the soil. The proceedings are due to be published about a year after the conference -- H. P. Nooteboom.

A. J. G. H. KOSTERMANS is revising Mangifera. IUCN/WWF has provided a grant to J. M. BOMPARD, Montpellier, France, to do field studies on wild species in Kalimantan. The first three months of research suggested that at least 20 species occur in Kalimantan alone (vs. the 10 mentioned in the Flora Malesiana), of which 6 seem to be undescribed. Trees have been marked and it is the intention, if funds can be obtained from FAO, to collect complete herbarium material as well as seeds, for germination and cultivation in the Bogor Botanical Garden. A similar research is intended for Sabah and Sarawak.

Sabah News

B. S. PARRIS collected pteridophytes under the aegis of the Royal Society (London) Expedition to the Danum Valley. This is a joint expedition with the Sabah Foundation, the Forest Research Institute, and the UKMS.

In December she visited Mt. Kinabalu.

B. CROXALL, B. SPONNER and B. BLEWETT joined the expedition between 10 December 1985 to 6 January 1986.

A. MOAD, a Fulbright scholar to Malaysia under the guidance of ASHTON is studying the demography and physiological ecology of saplings of congeneric sympatric dipterocarp species in the Sepilok Forest.

R. M. SMITH planned to visit Sabah in June 1986 to hunt for Zingiberaceae.

J. P. FRAHM, W. FREY, H. KUERSCHNER, M. MENZEL and H. MOHAMED performed field studies in the summer of 1986 in Sabah. Along a transect of Mt. Kinabalu special

attention was given to a complete survey of the bryoflora from sea level to the forest line with collections in undisturbed areas at 200 m intervals, the zonation of bryophytes and studies on the ecology of epiphytic bryophytes (abundance, light factor, gas exchange, temperature, humidity), the structure of epiphytic bryophyte vegetation, and also new studies on structural anatomical and morphological adaptations. Similar field studies have been carried out in Peru, which will enable a comparison of the bryoflora and vegetation of both areas. The German Research Foundation has granted this continuation of the Bryoptrop Project.

A. LAMB (Tenom, Sabah) is studying the family Nephelaphyllum for Borneo.

J. J. VERMEULEN (L) has finished his revision of the African species of Bulbophyllum for his Ph.D. thesis, which will be published in the second issue of a new journal of the Rijksherbarium: "Orchid Monographs". He is now studying the species of Borneo, as from 22 May 1986 he will be working for a year at the Orchid Centre in Sabah.

Sarawak News

Development in Sarawak: A Conference on Social, Economic and Political Change in East Malaysia, was held on Saturday, 24th August - Sunday, 25th August, 1985. The announcement of the conference stated:

"Development" can be understood to mean an historical process of social, economic, and political change leading to widespread improvement in the material well-being of a population. This conference takes the Malaysian state of Sarawak as a case study and focuses on its development experience and prospects. The conference seeks to trace and evaluate the course of development in Sarawak, both in broad historical terms and in relation to specific local processes of change, and in the light of this to suggest appropriate strategies for the future.

Sarawak is in many respects a microcosm of the developing world. It is characterized by a small but rapidly growing and largely rural population engaged for the most part in low-productivity, semi-subsistence agriculture; by an economy highly dependent on the export of only two or

three commodities; by a society with a multiplicity of ethnic, religious and political allegiances; by the problem of growing inequality between rich and poor and between urban and rural sectors; and by an urgent need to conserve a unique cultural and environmental heritage. An assessment of Sarawak's approach to these problems will be of relevance to other developing regions, in Southeast Asia and beyond, as well as filling a gap in the Malaysian development debate.

In recognition of the complexity of the topic the conference takes a multidisciplinary approach, with contributions from anthropology, rural sociology, history, economics, and political science. In addition the conference draws on both academic research and the experience of involvement in planning, administration and politics within Sarawak.

Contributors and topics were:

Bob Reece, School of Social Inquiry, Murdoch University

Economic Development under the Brookes

Hamid Bugo, General Manager, Land Custody and Development Authority, Sarawak

The Pattern of Economic Development and the Economic Potential of Sarawak

Michael Leigh, Department of Government, University of Sydney

The Spread of Foochow Commercial Power Prior to the NEP

Peter Kedit, Ethnologist, Sarawak Museum

Socio-Cultural Indicators of Development and its Impact

Michael Heppell, Public Service Board, Victoria

Evolution of a Legal System: A Case Study of the Iban

James Massing, Member of State Legislature, Sarawak

Resettlement of Rural Populations: A Case Study

Rob Cramb, Centre of Southeast Asian Studies, Monash University

The Development of Iban Agriculture

Hatta Solhee, Deputy Director, State Planning Unit, Sarawak

The Development of Irrigated Rice Farming: A Case Study

F. J. LIAN - I am a Kenyah Dayak from the Tinjar (Baram District) of Fourth Division, Sarawak currently doing my Ph.D. degree at The Australian National University. I have just been back from a year fieldwork in Sarawak and I am expecting to complete the course by May 1987. My research examines development and growth of contemporary Kenyah Economy under the topic: Farmers' Perception and Rationalities and Economic Change.

My other areas of interest in Sarawak are:

1. Land development and resettlement;
2. Native (Dayak) Land Tenure System. Between 1980-83 I carried out a State wide survey of Dayak Land Tenure System. The study was sponsored by the Institute of Advance Studies, University of Malaya, Kuala Lumpur. The study is temporarily suspended and I hope to publish my findings after the completion of my Ph.D. Thesis.

The working papers of CAROL RUBENSTEIN for her oral literature research of collecting and translating songs and chants of Sarawak Dayaks (1971-74) are available. These document the word-by-word procedures for deriving meanings and choosing the closest equivalents, working with interpreters in the seven main Dayak groups. From these notes all the English-language versions were formed. (Notes relating to brief 1985-86 research will be added.)

Borneo scholars might find this information of some value for their own work. At present the material is difficult of access, stored in cartons in a warehouse. Can anyone suggest or offer a library to file and house this collection of working papers?

Please write to Carol Rubenstein c/o the Borneo Research Bulletin.

Sarawak - The staff of SAR organized two field trips to Lubok Antu (23 February to 13 March 1985) and Ulu Gaat (10 April to 7 May 1985) to collect botanical specimens (ca. 200 numbers) and to gather ethnobotanical data with an emphasis on medical plants from the local Ibans.

Other trips were to Bukit Melatai (7 April to 7 May 1985; 295 numbers), Batu Lawi (15 July to 15 September 1985; 800) and Bau 12 to 22 November 1985: 190).

For the Botanical Research Centre, Semengoh, about 160 species, mainly orchids and gingers have been brought together in 1985.

With a grant from the U.S. National Science Foundation R. PRIMACK will extend research in three sets of permanent plots on contrasting soils in mixed dipterocarp forest. These were set up by ASHTON in the mid-sixties, and have been renumerated at 5 years' intervals under the supervision of P. CHAI and H. S. LEE. The aim is to compare the demography of selected species which manifest high population densities at one site and low at another.

The Ornamental and roadside plants of Sarawak by P. K. CHAI is due to appear this year.

Forest Department, Kuching - The number of specimens in the herbarium has reached 100,000, well worth a congratulation!

Illegal Plant Collection in Malaysia. Nepenthes rajah, the largest known pitcher plant, is threatened by unscrupulous traders belonging to an international syndicate which preys on rare, exotic plants. The Australian L. WATSON is known to be a key figure behind the racket which is robbing Borneo of its rarest plants. He was photographed recently in Bario, Sarawak, before boarding an aircraft with four box loads of pitcher plants. He is known to have made two subsequent trips to Sabah, and on each occasion large quantities of exotic plants disappeared from Kinabalu Park. He is said to plan to go to G. Mulu by helicopter for collecting more exotic plants (Malayan Naturalist, February 1985 and Borneo Bulletin, 27 October 1984).

Malaysia Plans Dams in Sarawak - Malaysia plans to execute a gigantic hydro power project in Sarawak, the so-called Bakun Hydro-electric Project, in the Upper Rajang River. A 204 m high concrete dam has to be built behind

which a reservoir of 695 km² will form. Maximum electricity output is estimated at 2400 Megawatt, equivalent to ca. 22% of Malaysia's oil production. Total costs will be around US\$ 4 billion, of which 20 million is intended for the transmigration of the local population. These are more than 5,000 people belonging to 6 different ethnical groups. They lose everything: their ancestral land, their long-houses, their places of worship, hunting, and gathering. In brief, by this move their culture will be drowned when their lands are. They have erected the Bakun People's Action Committee to protest against these plans and to call for the help of the whole population of Malaysia. The project will of course cause enormous harm to the environment as well. Large areas of virgin forest will be inundated, upstream fishes will lose their spawning grounds and down-stream the water regime and subsequently the ecology will be severely altered. (Suara Sam 2, 1, February 1985; Sarawak Tribune 5, February 1986).

BOOK REVIEWS, ABSTRACTS, AND BIBLIOGRAPHY

KING, Victor T., Symbols of social differentiation: a comparative investigation of signs, the signified and symbolic meanings in Borneo. *Anthropos* 80(1985), p. 125-152; bibl. photogr.

There are a number of similarities in the system of stratification and the symbolization of rank among a variety of stratified societies in Central Borneo, including the Kayan, Kenyah, Maloh, Melanau-Kajang, and possibly the Ngaju-Ot Danum. Specific attention is devoted to various motifs such as human faces and figures, serpents or snakes, and hornbills, which are found among the Maloh of West Kalimantan. It is argued that these visual motifs in Maloh material culture and other symbols constitute a system of dual symbolic classification, common to numerous societies in the Indonesian world. In the case of stratified societies, the symbolic system expresses and perpetuates social inequality, and the principles of opposition, division, and hierarchy are dramatized in such events as death rituals. Opposition, however, is balanced by the principle of complementarity and unity so that in composite designs the

themes of fertility, life-giving power, and protection are also displayed. The conclusion has suggestions for an understanding of Maloh symbolism.

KING, Victor T., The Maloh of West Kalimantan: an ethnographic study of social inequality and social change among an Indonesian Borneo people/Koninklijk Instituut voor Taal- Land- en Volkenkunde. - Dordrecht [etc.]: Foris. 1985, VI-II. 252 p., bibl., ill., maps, photogr.

The Maloh are a stratified indigenous population of interior West Kalimantan. This ethnographic study examines the main characteristics of Maloh social inequality historically, tracing the changes which had occurred up to the early 1970s in three dimensions of hierarchy - economic class relations, status ranking and political organization. It is argued that traditionally Maloh politico-economic classes of aristocrats, commoners and slaves, and the interrelated status levels were maintained both by mechanisms internal to that society and by external relations with surrounding non-Muslim ethnic groups and nearby Muslim-Malay states. It was only when a Dutch colonial administration and Christian missions are gradually established in interior Kalimantan from the latter half of the nineteenth century that the traditional Maloh stratification system began to be transformed. Processes of change have continued apace since Indonesian independence. While some elements of the pre-colonial order still remain in contemporary Maloh society, aristocrats are now having to compete and come to terms with newly emerging groups of educated, mainly Christian commoners, many of whom are in government employment, trade and shopkeeping. The book also discusses conceptual matters relating to rank and cognatic kinship in the anthropological literature on Borneo societies, and compares the Maloh system of social stratification with those of other stratified Borneo groups such as the Kayan, Kenyah and Kajang-Melanau.

HOFFMAN, Carl Lewis, Punan., Repr., Ann Arbor, Mich., University Microfilms International, 1985, VI, 221 p., bibl., maps. Xerographic photocopy of Ph.D. thesis Philadelphia, PA, University of Pennsylvania, 1983.

Groups of present and former nomadic hunters and gatherers known as Punan (or Penan) are widely distributed across the island of Kalimantan. The standard conception of the Punan throughout the last one hundred years has been

that they are the "aboriginals" of the island; they are "strange, unknown wanderers of the inner forest." This study tries to determine just who exactly these "White People of the Woods" are and what they mean in terms of the ethnographic picture of Kalimantan as a whole. After ch. 1 has set the problem, ch. 2 gives a descriptive overview of the Punan; including subjects like distribution, nomenclature, racial affinities, subsistence technology, economic activity, political and social organization, religious beliefs, etc. Ch. 3 pays attention to relations of the Punan with the neighbouring Dayak, and to specialization and trade among Bornean peoples.

Technologies to sustain tropical forest resources. A report on the Office of Technology Assessment (OTA) of the Congress of the United States. For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Many authors, 344 pp. paper bound.

Fourteen chapters, each beginning with a content on grey paper, followed by the highlights. At the end of each chapter references to the chapter are given of relevant recent literature. In appendices a status of tropical forests in the separate countries is given according to the FAO figures, a glossary, and a list of commissioned papers. The book is finished by an index. The chapters are on subjects like: Importance of Tropical Forests; Status of Tropical Forests; Causes of Deforestation; Organizations Dealing With Tropical Forest Resources; Technologies for Undisturbed Forest; Technologies to Reduce Overcutting; Forestry Technologies for Disturbed Forests; Forestry Technologies to Support Tropical Agriculture; Resource Development Planning; Education, Research, and Technology Transfer; and some more. All chapters are thoroughly dealing with the subject and illustrated with photos and tables. This book is a must for all who are involved with tropical forests, especially development, and with tropical forestry and relating subjects. (H. P. Nooteboom)

Tropical Forests: A Call for Action. Report of an International Task Force convened by the World Resources Institute, The World Bank, and the United Nations Development Program. World Resources Institute, 1735 New York Avenue, N.W., Washington, D.C. 20006, USA. October 1985, ISBN 0-915825-10-4.

The report was discussed in a meeting held in The Hague, the Netherlands, during a three day meeting, the first two devoted to the question how international cooperation could be coordinated; the last day was a discussion day for the public with representatives of non-governmental organizations, Parliament, etc. That day was opened by Ms. E. M. Schoo, Minister for International Development Cooperation. She announced that the Dutch Government in the near future will double the funds available for tropical forests from f50 million to f100 million. She also announced that she would give a substantial contribution to scientific research (The TROPENBOS program). After hearing her speech the Director General for Science Policy could announce the official start of that program (see under Research).

The Action Plan contains three parts:

1. The Plan, in which the cost of deforestation, the ways of arresting deforestation, and an Agenda for Action are discussed;
2. Case Studies, important subjects are Land Use on Upland Watersheds, Forest Management for Industrial Uses, Conservation of Tropical Ecosystems, and Strengthening Institutions for Research, Training, and Extension;
3. Country Investment Profiles, with the same subjects. In this part it is anticipated that a total of US\$ 4 billion, or US\$ 800 million annually for 5 years, would need to be mobilized by the development assistance agencies and international lending institutions, which would double the present levels of external aid to combat deforestation.

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 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 of 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.

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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; (3) support of the Council's program of furthering research in the social, biological, and medical sciences in Borneo; (4) subscription to the Borneo Research Bulletin.

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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 the 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 judgment, 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 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 or 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 in which the contributor wishes them to appear rather than leaving this to the discretion of the Editor.

Working Papers: Research reports or papers exceeding 10 double-spaced pages will be published as Working Papers. Authors who submit such papers will be consulted by the Editor who, upon obtaining an author's consent, will edit and process the paper for distribution by private order. A list of Working Papers, with the cost of each, will be included in each issue of the Bulletin.

All contributions should be sent to the Editor, Borneo Research Bulletin, c/o Department of Anthropology, College of William and Mary, Williamsburg, VA 23185, U.S.A.

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 the contributions: author should appear on a separate line, then date, title of article, journal, volume number, and pages. For books, include place of publication and finally publisher. References in the body of contributions should be cited by author's last name, date, and page number as follows: (Smith 1950:36-41). For punctuation and capitalization refer to Bibliographic Section.

Names mentioned in the News Section and other uncredited contributions will be capitalized and underlined.

Artwork is to be submitted in professionally prepared, camera-ready copy. Costs incurred by the Council in reproducing maps or illustrations will be charged to the author.

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