BIBLIOGRAPHY

Agar, Michael
1975. Selecting a dealer. American Ethnologist, vol. 2, no. 1, pp. 47-60.

Allan, William
1949. Studies in African land usage in Northern Rhodesia. Rhodes Livingstone Papers 15. London, Oxford University Press.

1967. The African husbandman. Edinburgh, Oliver and Boyd.

Bacdayan, Albert Somebang
1967. The peace pact system of the Kalingas in the modern world. Ph.D. Dissertation, Cornell University.

Banks, E. Pendleton
1969. The concept of a culture. In Tyler, Stephen A. (ed.), Concepts and assumptions in contemporary anthropology. Southern Anthropological Society Proceedings no. 3, pp. 18-25.

Barkin, David
1968a. Economic anthropology at the crossroads: a review article. Working Paper 6807, mimeographed.

1968b. The use of economic theory in anthropology. Paper presented to the Eighth International Congress of Anthropological and Ethnological Sciences, September 3-10, 1968, mimeographed.

Barrau, Jacques
1958. Subsistence agriculture in Melanesia. Bernice P. Bishop Museum Bulletin, vol. 219.

Barth, Fredrik
1959. The land use pattern of migratory tribes of South Persia. Norsk Geografisk Tidsskrift, vol. 17, pp. 1-11.

1964a. Capital, investment and the social structure of a pastoral nomad group in South Persia. In Firth, Raymond, and B.S. Yamey (eds.), Capital, saving and credit in peasant societies: studies from Asia, Oceania, the Caribbean and Middle America. London, George Allen and Unwin Ltd., pp. 69-81.

1964b. Nomads of South Persia. Oslo, Universitetets Etnografiske Museum Bulletin, vol. 8.

1967. Economic spheres in Darfur. In Firth, Raymond (ed.), Themes in economic anthropology. A.S.A. Monographs no. 6. London, Tavistock Publications Ltd., pp. 149-174.

1973. Descent and marriage reconsidered. In Goody, Jack, The character of kinship. Cambridge, Cambridge University Press, pp. 3-19.

Barth, Fredrik (ed.)
1969. Ethnic groups and boundaries: the social organization of cultural differences. Boston, Little, Brown and Co.

Barton, Roy Franklin
1919. Ifugao law. University of California Publications in American Archaeology and Ethnology, vol. 15, no. 1, pp. 1-186.

1922. Ifugao economics. Ibid., vol. 15, no. 5, pp. 385-446.

1949. The Kalingas: their institutions and custom law. Chicago, University of Chicago Press.

Belshaw, Cyril S.
1955. In search of wealth: a study of the emergence of commercial operations in the Melanesian society of Southeastern Papua. American Anthropological Association Memoir No. 80, American Anthropologist, vol. 57, no. 1 (part 2).

1965. Traditional exchange and modern markets. Modernization of Traditional Societies Series. Englewood Cliffs, Prentice-Hall, Inc.

1967. Theoretical problems in economic anthropology. In Freedman, Maurice (ed.), Social organization: essays presented to Raymond Firth. Chicago, Aldine Publishing Company, pp. 25-42.

Bennett, John W.
1971. Northern plainsmen: adaptive strategy and agrarian life. (Originally published in 1969.) Chicago, Aldine.

Berlin, Brent
1974. Further notes on covert categories and folk taxonomies: a reply to Brown. American Anthropologist, vol. 76, no. 2, pp. 327-331.

Berlin, Brent; Dennis E. Breedlove; and Peter H. Raven
1966. Folk taxonomies and biological classifications. Science, vol. 154, no. 3746, pp. 273-275.

1968. Covert categories and folk taxonomies. American Anthropologist, vol. 70, no. 2, pp. 290-299.

Berlin, Brent; Dennis E. Breedlove; and Peter H. Raven
1973. General principles of folk biological classification. American Anthropologist, vol. 75, pp. 214-242.

1974. Principles of Tzeltal plant classification: an introduction to the botanical ethnography of a Mayan speaking community. New York, The Academic Press.

Berliner, Joseph S.
1962. The feet of the natives are large: an essay on anthropology by an economist. Current Anthropology, vol. 3, no. 1, pp. 47-61.

Bhattacharya, P.
1974. Reproduction. In Cockrill, Ross, The husbandry and health of the domestic buffalo. Rome, Food and Agriculture Organization of the United Nations, pp. 105-158.

Billiet, Francisco; and Francis Lambrecht
1970. The Kalinga "ullalim." In Billiet, Francisco, and Francis Lambrecht, Studies on Kalinga ullalim and Ifugaw orthography. Baguio City, The Philippines, The Catholic School Press.

1974. The Kalinga ullalim II. Baguio City, Philippines, Igorot Culture Research Studies.

Bohannan, Paul
1955. Some principles of exchange and investment among the Tiv. American Anthropologist, vol. 57, no. 1, pp. 60-70.

1958. Extra-processual events in Tiv political institutions. American Anthropologist, vol. 60, no. 1, pp. 1-12.

1959. The impact of money on an African subsistence economy. The Journal of Economic History, vol. 19, no. 4, pp. 491-503.

Bohannan, Paul, and Laura Bohannan
1968. Tiv economy. Northwestern University African Studies no. 20. Evanston, Illinois, Northwestern University Press.

Bohannan, Paul, and George Dalton
1962. Introduction. In Bohannan, Paul, and George Dalton (eds.), Markets in Africa. Evanston, Illinois, Northwestern University Press, pp. 1-26.

Bohannan, Paul, and George Dalton (eds.)
1962. Markets in Africa. Northwestern University African Studies no. 9. New York, Doubleday Anchor.

Bottomore, T.B. (ed.)
1964. Karl Marx: selected writings on sociology and social philosophy. New York, McGraw Hill.

Bright, William
1968. Toward a cultural grammar. Indian Linguistics, vol. 29, no. 1, pp. 20-29. (Also published as a Katre Felicitation Volume, part I, Ghatage, A.M., and others, (eds.). Poona, Linguistic Society of India, Deccan College.

Brookfield, H.C.
1969. On the environment as perceived. In Progress in Geography: international reviews of current research, vol. 1, pp. 51-80. London, Edward Arnold.

1972. Intensification and disintensification in Pacific agriculture: a theoretical approach. Pacific Viewpoint, vol. 13, no. 1, pp. 30-48.

1973a. Full circle in Chimbu: a study of trends and cycles. In Brookfield, Harold, The Pacific in transition. London, Edward Arnold Publishers Ltd., pp. 127-162.

1973b. Introduction: explaining or understanding? The study of adaptation and change. In Brookfield, Harold, The Pacific in transition. London, Edward Arnold Publishers Ltd., pp. 3-24.

Brookfield, H.C. (ed.)
1969. Pacific market-place: a collection of essays. Canberra, Australian National University Press.

Brookfield, H.C., and Paula Brown
1963. Struggle for land: agriculture and group territories among the Chimbu of the New Guinea Highlands. Melbourne, Oxford University Press.

Brookfield, H.C. with Doreen Hart
1971. Melanesia: a geographical interpretation of an island world. London, Methuen.

Brown, Cecil H.
1974. Unique beginners and covert categories in folk biological taxonomies. American Anthropologist, vol. 76, no. 2, pp. 325-327.

Brown, Paula.
1970. Chimbu transactions. Man, vol. 50, art. 1, pp. 99-117.

Bureau of the Census and Statistics, Republic of the Philippines
1962. Census of the Philippines 1960: population and housing, Mountain Province. Vol. 1: report by province. Manila, Bureau of the Census and Statistics of the Department of Commerce and Industry.

1963. Census of the Philippines 1960: agriculture, Mountain Province. Report by province. Manila, Bureau of the Census and Statistics of the Department of Commerce and Industry.

Bureau of Coast and Geodetic Survey
1929. Map of Northern Luzon, Philippine Islands. Manila, United States Bureau of Coast and Geodetic Survey. Scale 1:200,000.

Bulmer, Ralph
1962. Chimbu plume traders. Australian Natural History, (March 15), vol. 14, no. 1, pp. 15-19.

Burkill, I.H.
1966. A dictionary of the economic products of the Malay Peninsula. Second edition. Kuala Lumpur, Ministry of Agriculture, 2 volumes.

Burling, Robbins
1962. Maximization theories and the study of economic anthropology. American Anthropologist, vol. 64, no. 4, pp. 802-821.

1969. Linguistics and ethnographic description. Ibid., vol. 71, no. 5, pp. 817-827.

Butler, B. Robert
1965. The structure and function of the old Cordilleran culture concept. American Anthropologist, vol. 67, no. 5 (part 1), pp. 1120-1131.

Cancian, Frank
1965. Economics and prestige in a Maya community: the religious cargo system in Zinacantan. Stanford, Stanford University Press.

1966. Maximization as a norm, strategy, and theory: a comment on programmatic statements in economic anthropology. American Anthropologist, vol. 68, no. 2 (part 1), pp. 465-470.

Cassady, Ralph
1968. Negotiated price-making in Mexican traditional markets: a conceptual analysis. American Indigena, vol. 28, pp. 51-78.

Chalmers, Margaret I.
1974. Nutrition. In Cockrill, W. Ross, The husbandry and health of the domestic buffalo. Rome, Food and Agriculture Organization of the United Nations, pp. 167-194.

Chang, Kwang-chih
1967. Major aspects of the interrelationship of archaeology and ethnology. Current Anthropology, vol. 8, no. 3, pp. 227-241.

Chayanov, A[lexander] V[asilevich]
1966. The theory of peasant economy. (Edited by P. Thorner, B. Kerblay and R.E.F. Smith.) Homewood, Illinois, Richard D. Irwin for the American Economic Association.

Cheung, Steven N.S.
1968. Private property rights and sharecropping. The Journal of Political Economy, vol. 76, no. 6, pp. 1107-1122.

Chomsky, Noam
1962. Syntactic structure. The Hague, Mouton.

Cockrill, W. Ross
1974. Management, conservation and use. In Cockrill, W. Ross, The husbandry and health of the domestic buffalo. Rome, Food and Agriculture Organization of the United Nations, pp. 276-312.

Cockrill, W. Ross (ed.)
1974. The husbandry and health of the domestic buffalo. Rome, Food and Agriculture Organization of the United Nations.

Codere, Helen
1968. Money-exchange systems and a theory of money. Man, vol. 3, art. 4, pp. 557-577.

Cohen, Percy S.
1967. Economic analysis and economic man: some comments on a controversy. In Firth, Raymond (ed.), Themes in economic anthropology. A.S.A. Monographs no. 6. London, Tavistock Publications Ltd., pp. 91-118.

Cole, Fay-Cooper, and Berthold Laufer
1912. Chinese pottery in the Philippines. Field Museum of Natural History Publication no. 162. Anthropological Series, vol. 12, no. 1.

1915. Traditions of the Tinguian: a study in Philippine folk-lore. Ibid., no. 180. Anthropological Series, vol. 14, no. 1, pp. 1-226.

1922. The Tinguian: social, religious and economic life of a Philippine tribe. Ibid., no. 209. Anthropological Series vol. 14, no. 2, pp. 227-493.

Committee for Technical Cooperation in Africa
1963. Symposium on rice, Conakry, French Guinea, 16-22, June 1963. C.S.A./C.C.T.A. Publication no. 94. London, Committee for Technical Cooperation in Africa.

Congress, Republic of the Philippines
1966. An act creating the provinces of Benguet, Mountain Province, Ifugao and Kalinga-Apayao. Manila, Congress, Republic of the Philippines, Republic Act No. 4695.

Conklin, Harold C.
1952. Outline gazetteer of native Philippine ethnic and linguistic groups. New Haven, mimeographed.

1957. Hanunóo agriculture: a report on an integral system of shifting cultivation in the Philippines. Rome, Food and Agriculture Organization of the United Nations.

1960. The cultural significance of land resources among the Hanunóo. Philadelphia Anthropological Society Bulletin, vol. 13, no. 2, pp. 38-42.

1962. Lexicographical treatment of folk taxonomies. International Journal of American Linguistics, vol. 28, no. 2 (part 4), pp. 119-141.

1964. Ethnogenealogical method. In Goodenough, Ward H. (ed.), Explorations in cultural anthropology: essays in honor of George Peter Murdock. New York, McGraw-Hill Book Company, pp. 25-55.

1967. Some aspects of ethnographic research in Ifugao. Transactions of the New York Academy of Sciences, Series II, vol. 30, no. 1, pp. 99-121.

1968. Ethnography. In Sills, David L. (ed.), International encyclopedia of the social sciences. New York, The Macmillan Company and The Free Press, vol. 5, pp. 172-178.

Cook, Scott
1966. The obsolete 'anti-market' mentality: a critique of the substantive approach to economic anthropology. American Anthropologist, vol. 68, no. 2 (part 1), pp. 323-345.

1969. The 'anti-market' mentality re-examined: a further critique of the substantive approach to economic anthropology. Southwestern Journal of Anthropology, vol. 25, no. 4, pp. 378-406.

1970. Price and output variability in a peasant-artisan stoneworking industry in Oaxaca, Mexico: an analytical essay in economic anthropology. American Anthropologist, vol. 72, no. 4, pp. 776-801.

1973a. Economic anthropology: problems in theory, method, and analysis. In Honigman, John J., Handbook of social and cultural anthropology. Chicago, Rand McNally and Company, pp. 795-860.

1973b. Production, ecology, and economic anthropology: notes toward an integrated frame of reference. Social Science Information, vol. 12, no. 1, pp. 25-52.

1974. 'Structural substantivism': a critical review of Marshall Sahlins' Stone age economics. Comparative Studies in Society and History, vol. 16, no. 3, pp. 355-379.

Cunha, T.J.
1966. Nutritional requirements of the pig. In Bustad, L.K., and R.O. McLellan (eds.), Swine in biomedical research. Richland, Washington, Battelle Memorial Institute, Pacific Northwest Coast Laboratory, pp. 681-696.

Dalton, George
1960. A note of clarification on economic surplus. American Anthropologist, vol. 62, no. 3, pp. 483-490.

1961. Economic theory and primitive society. American Anthropologist, vol. 65, pp. 1-25.

1963. Economic surplus, once again. Ibid., vol. 65, no. 2, pp. 389-394.

1965. Primitive money. Ibid., vol. 67, no. 1, pp. 44-65.

1969. Theoretical issues in economic anthropology. Current Anthropology, vol. 10, no. 1, pp. 63-80.

Dalton, George (ed.)
1968. Primitive, archaic and modern economies: essays of Karl Polanyi. Garden City, New York, Doubleday Anchor.

Davenport, William
1959. Nonunilinear descent and descent groups. American Anthropologist, vol. 61, no. 4, pp. 557-572.

1961. When a primitive and civilized money meet. In Garfield, V.E. (ed.), Proceedings of the 1961 Annual Spring Meeting of the American Ethnological Society. Seattle, University of Washington Press, pp. 64-68.

DeRaedt, Jules
1969. Some notes on Buwaya society. Saint Louis Quarterly, vol. 7, no. 1, pp. 7-112.

1970. Myth and ritual: a relational study of Buwaya mythology, ritual, and cosmology. Ph.D. dissertation, University of Chicago.

Diesing, Paul
1950. The nature and limitations of economic rationality. Ethics, vol. 61, pp. 12-26.

1962. Reason in society: five types of decisions and their social conditions. Urbana, University of Illinois Press.

Dozier, Edward P.
1964. The Kalinga peacepact institution. Paris, Musée de l'Homme, VI Congress Internacional des Sciences Anthropologiques et Ethnologiques.

1966. Mountain arbiters: the changing life of a Philippine hill people. Tucson, Arizona, University of Arizona Press.

Dyden, Isidore
1965. A lexicostatistical classification of the Austronesian languages. International Journal of American Linguistics, Memoir no. 19, supplement to vol. 31, no. 1.

Edel, Mathew
1969. Economic analysis in an anthropological setting: some methodological considerations. American Anthropologist, vol. 71, pp. 421-433.

Eggan, Fred
1960. The Sagada Igorots of Northern Luzon. In Murdock, George Peter (ed.), Social Structure in Southeast Asia. Viking Fund Publications in Anthropology no. 29. Chicago, Quadrangle Books, pp. 24-50.

1963. Cultural drift and social change. Ibid., vol. 4, no. 4, pp. 347-355.

1966. Some aspects of culture change in the Northern Philippines. In Jennings, Jesse D. and E. Adamson Hoebel, Readings in anthropology. New York, McGraw-Hill Book Company, pp. 322-326.

1967. Some aspects of bilateral social systems in the Northern Philippines. In Zamora, Mario D. (ed.), Studies in Philippine anthropology, in honor of H. Otley Beyer. Quezon City, Philippines, Alemar-Phoenix Publishing House, pp. 186-203.

Einzig, Paul
1948. Primitive money in its ethnological, historical and economic aspects. London: Eyre and Spottiswoods.

Epstein, T. Scarlett
1967a. Productive efficiency and customary systems of rewards in rural South India. In Firth, Raymond (ed.), Themes in economic anthropology. A.S.A. Monographs no. 6. London, Tavistock Publications Ltd., pp. 229-252.

1967b. The data of economics in anthropological analysis. In Epstein, A.L. (ed.), The craft of social anthropology. Social Science Paperbacks no. 20. London, Tavistock Publications Ltd., pp. 153-180.

Epstein, A.L.
1968. Power, politics, and leadership: some Central African and Melanesian contrasts. In Swartz, Marc J., Local-level politics: social and cultural perspectives. Chicago, Aldine Publishing Company, pp. 53-68.

Fahrenfort, J.J.
1964. The acquisition of distinction through gifts and squandering. International Archives of Ethnography, vol. 50, no. 1, pp. 1-17.

Firth, Raymond
1929. Primitive economics of the New Zealand Maori. New York, E.P. Dutton and Company.

1936. We, the Tikopia. London, Allen and Unwin.

1939. Primitive Polynesian economy. London, George Routledge and Sons, Ltd.

1951. Elements of social organization. London, Watts & Co.

1953. The study of values by social anthropologists. Man, vol. 53, art. 230, pp. 146-153.

1959a. Economics of the New Zealand Maori. Second edition. Wellington, R.E. Owen.

1959b. Social change in Tikopia: re-study of a Polynesian community after a generation. London, George Allen and Unwin Ltd.

1961. Elements of social organization. Third edition. Boston, Beacon Press.

1963a. Bilateral descent groups: an operational viewpoint. Royal Anthropological Institute Occasional Paper no. 16, pp. 22-37.

1963b. Economic anthropology. In Encyclopedia Britannica. Chicago, The Encyclopedia Britannica, Inc., vol. 7, pp. 925-926.

1964. Capital, saving and credit in peasant societies: a viewpoint from economic anthropology. In Firth, Raymond, and B.S. Yamey (eds.), Capital, saving and credit in peasant societies: studies from Asia, Oceania, the Caribbean and Middle America. London, George Allen and Unwin Ltd., pp. 15-34.

1965. Primitive Polynesian economy. Second edition. London, Routledge and Kegan Paul.

1966. Malay fishermen. Second edition. London, Routledge and Kegan Paul.

1967a. Editor's preface. In Firth, Raymond (ed.), Themes in economic anthropology. A.S.A. Monographs no. 6. London, Tavistock Publications Ltd., pp. ix-x.

1967b. Themes in economic anthropology: a general comment. In Firth, Raymond (ed.), Themes in economic anthropology. A.S.A. Monographs no. 6. London, Tavistock Publications Ltd., pp. 1-28.

1971 Economic aspects of modernization of Tikipia. In Hiatt, L.R. and C. Jayawardena, Anthropology in Oceania: essays presented to Ian Hogbin. Sydney, Angus and Robertson, pp. 47-75.

Flannery, Kent V.
1972. Summary comments: evolutionary trends in social exchange and interaction. In Wilmsen, Edwin N., Social exchange and interaction. Museum of Anthropology, Anthropological Papers No. 46. Ann Arbor, University of Michigan Press, pp. 129-136.

Food and Agriculture Organization of the United Nations
1947. Report of the rice study group, Trivandrum, Travancore State, India, 16 May-6 June 1947. Washington.

1948a. Nutrition problems of rice-eating countries in Asia. Report of the Nutrition Committee, Baguio, Philippines, 23-28 February 1948. Washington.

1948b. Rice and rice diets: a survey prepared by the Nutrition Division of the FAO. FAO Nutritional Studies no. 1. Washington.

1949a. Food composition tables for international use, by Charlotte Chatfield. FAO Nutritional Studies no. 3. Washington.

1949b. Rice bulletin. Commodity Series no. 11. Washington.

1953. Report of special rice meeting held at Bangkok, 5-16 January 1953. Committee on Commodity Problems Document. Bangkok.

1954a. Food composition tables: minerals and vitamins for international use, by Charlotte Chatfield. FAO Nutritional Studies no. 11. Rome.

1954b. Rice and rice diets: a nutritional survey. Revised edition. Washington.

1958. Pig breeding, recording and progeny testing in European countries. FAO Agricultural Studies no. 44. Rome.

1964. Protein: at the heart of the world food problem. World Food Problems no. 5. Rome.

1965a. The economic relationships between grains and rice. Commodity Bulletin Series no. 39. Rome.

1965b. Protein requirements: report of a joint FAO/WHO expert group. FAO Nutrition Meetings Report Series no. 37. Rome.

1965c. Rice report 1965. Rome.

1965d. The world rice economy in figures 1909-1963. Commodity Reference Series no. 3. Rome.

1968. Calorie requirements. FAO Nutritional Studies no. 15. Report of the Second Committee on Calorie Requirements. Rome.

1969. Report to the government of Malaysia on the potential for livestock development, based on the work of the FAO livestock mission. Rome, United Nations Development Programme Report no. TA 2610.

1970. Production yearbook 1969, vol. 23. Rome.

1973. Energy and protein requirements. FAO Nutrition Meetings Report Series no. 52. Rome.

Ford, Richard I.
1972. Barter, gift, or violence: an analysis of Tewa intertribal exchange. In Wilmsen, Edwin N., Social exchange and interaction. Museum of Anthropology, Anthropological Papers No. 46. Ann Arbor. University of Michigan Press, pp. 21-46.

Forde, C. Daryll
1934. Habitat, economy and society: a geographical introduction to ethnology. London, Methuen and Co. Ltd.

Foster, George M.
1965. Peasant society and the image of limited good. American Anthropologist, vol. 67, no. 2, pp. 293-315.

Fox, Robert B., Willis E. Sibley and Fred Eggan
1965. A preliminary glottochronology for Northern Luzon. Asian Studies, vol. 3, no. 1, pp. 103-113.

Frake, Charles O.
1956. Malayo-Polynesian land tenure. American Anthropologist, vol. 58, no. 1, pp. 170-173.

1962. Cultural ecology and ethnography. American Anthropologist, vol. 64, no. 1, pp. 53-59.

1964. A structural description of Subanun "religious behavior." In Goodenough, Ward H. (ed.), Explorations in cultural anthropology: essays in honor of George Peter Murdock. New York, McGraw-Hill, pp. 111-129.

Freeman, J. Derek
1955. Iban agriculture: a report of the shifting cultivation of hill rice by the Iban of Sarawak. Colonial Research Studies no. 18. London, Her Majesty's Stationery Office.

1960. The Iban of Western Borneo. In Murdock, George Peter (ed.), Social structure in Southeast Asia. Viking Fund Publications in Anthropology no. 29. Chicago, Quadrangle Books, pp. 65-87.

1961. On the concept of kindred. Journal of the Royal Anthropological Institute, vol. 91 (part II), pp. 192-220.

Fried, Morton H.
1957. The classification of corporate unilineal descent groups. Journal of the Royal Anthropological Institute, vol. 87, no. 1, pp. 1-29.

1967. The evolution of political society: an essay in political anthropology. New York, Random House, Inc.

Friedman, Jonathan
1974. Marxism, structuralism and vulgar materialism. Man, vol. 9, no. 3, pp. 444-469.

Garland, H.P.
1922. The water buffalo (often called the mud buffalo): its characteristics and habits together with a description of its hide for making rawhide loom pickers. Saco, Maine, Garland Manufacturing Co.

Geertz, Clifford O.
1963. Agricultural involution. Berkeley, University of California Press.

Gierhart, John W.
1954. Evaluation of methods of area measurement. Surveying and Mapping, vol. 14, no. 4, pp. 460-465.

Gieser, Carl Richard
1958. The phonemes of Kalinga. Oceania Linguistic Monograph no. 3, pp. 10-23. Sydney, Summer Institute of Linguistics, Pacific Branch, University of Sydney.

1961. A grammatical sketch of Kalinga. M.A. Thesis, Cornell University.

Gladwin, Hugh and Christina Gladwin
1971. Estimating market conditions and profit expectations of fish-sellers at Cape Coast. In Dalton, George (ed.), Studies in economic anthropology. Washington, D.C., American Anthropological Association, pp. 123-143.

Godelier, Maurice
1967. System, structure, and contradiction in Capital. In Mibiband, Ralph, and John Saville, The socialist register 1967. New York, Monthly Review Press, pp. 91-119.

1969. La monnaie de sel. L'Homme, vol. 9, no. 2, pp. 5-37.

1971. "Salt currency" and the circulation of commodities among the Baruya of New Guinea. In Dalton, George (ed.), Studies in economic anthropology. Washington, D.C., American Anthropological Association, pp. 52-73.

1973. Rationality and irrationality in economics. (Translated from the French by Brian Pearce.) New York, Monthly Review Press.

1974. Anthropology and biology; towards a new form of co-operation. International Social Science Journal, vol. 26, no. 4, pp. 611-635.

Goodenough, Ward H.

1955. A problem in Malayo-Polynesian social organization. American Anthropologist, vol. 57, no. 1, pp. 71-83.

1956a. Residence rules. Southwestern Journal of Anthropology, vol. 12, no. 1, pp. 22-37.

1956b. Reply to Frake, Charles O., Malayo-Polynesian land tenure. American Anthropologist, vol. 58, no. 1, pp. 173-176.

1957. Cultural anthropology and linguistics. Report of the 7th annual round table meeting on linguistics and language study. Georgetown University Monograph Series on Languages and Linguistics, vol. 9, pp. 167-173.

1961a. Comments on cultural evolution. Daedalus, vol. 90, no. 3, pp. 521-528.

1961b. Review of Murdock, George Peter, Social structure in Southeast Asia. American Anthropologist, vol. 63, no. 6, pp. 1341-1347.

1961c. Property, kin and community on Truk. Yale University Publications in Anthropology, 46. New Haven, Conn. (reprinted from the 1951 edition).

1964. Introduction. In Goodenough, Ward H. (ed.), Explorations in cultural anthropology: essays in honor of George Peter Murdock. New York, McGraw-Hill, pp. 1-24.

1965. Rethinking 'status' and 'role': toward a general model of the cultural organization of social relationships. In Banton, Michael (gen. ed.), The relevance of models for social anthropology. A.S.A. Monographs no. 1. London, Tavistock Publications Ltd., pp. 1-24.

1970. Description and comparison in cultural anthropology. (Lewis Henry Morgan Lectures 1968.) Chicago, Aldine Publishing Co.

1971. Culture, language and society. Addison-Wesley Modular Publications, module no. 7. Reading, Mass., Addison-Wesley Publishing Co.

Goodfellow, D.M.

1939. Principles of economic sociology; the economics of primitive life as illustrated from the Bantu peoples of South and East Africa. London, George Routledge and Sons, Ltd.

Gordon, Donald F.
1968. Value, labor theory of. In Sills, David L. (ed.), International encyclopedia of the social sciences. New York, The Macmillan Co. and The Free Press, vol. 16, pp. 279-282.

Gras, N.S.B.
1927. Anthropology and economics. In Ogburn, W. F. and A.A. Goldenweiser, The social sciences and their interpretations. Boston, Houghton Mifflin, pp. 10-23.

Greenberg, Joseph H.
1970. Linguistics as a pilot science. In Linguistics in the 1970's. Paper presented at a briefing at the National Museum of History and Technology. Washington, D.C., Center for Applied Linguistics, pp. 1-14. (Pre-publication edition).

Gregory, James R.
1975. Image of limited good, or expectation of reciprocity? Current Anthropology, vol. 16, no. 1, pp. 73-84.

Grist, D.H.
1959. Rice. Third edition. London, Longmans, Green and Co. Ltd.

Hamada, Sinai C.
1966. The Mountain Provinces as a regional development area. In First annual report, year ending December 31, 1966. Baguio City, Philippines, Mountain Province Development Authority. Annex B., pp. 1-11.

Hamilton, Walton H., and Irene Till
1934. Property. In Seligman, R.A. (ed.), Encyclopedia of the social sciences. New York, The Macmillan Co., vol. 12, pp. 528-538.

Harris, Marvin
1959. The economy has no surplus? American Anthropologist, vol. 61, no. 2, pp. 185-199.

1969. Monistic determinism: anti-service. Southwestern Journal of Anthropology, vol. 25, pp. 198-206.

1974. Why a perfect knowledge of all the rules one must know to act like a native cannot lead to the knowledge of how natives act. Journal of Anthropological Research, vol. 30, no. 4, pp. 242-251.

1975. Reply [to H. Dieter Heinen, On cultural materialism, Marx, and the "Hegelian monkey"]. Current Anthropology, vol. 16, no. 3, pp. 454-456.

Heinen, H. Dieter
1975. On cultural materialism, Marx, and the "Hegelian monkey." Current Anthropology, vol. 16, no. 3, pp. 450-453.

Hide, Robin
1974. On the dynamics of some New Guinea highland pig cycles. (Paper presented at the American Anthropological Association Symposium, November 1974.)

Hogbin, Ian
1964. A Guadalcanal society: the Kaoka speakers. New York, Holt, Rinehart and Winston.

Hohfeld, W.N.
1913. Some fundamental legal conceptions as applied in judicial reasoning. Yale Law Journal, vol. 3, pp. 16-59.

1917. Fundamental legal conceptions as applied in judicial reasoning. Ibid., vol. 26, pp. 710-770.

Homans, George C.
1958. Social behavior as exchange. American Journal of Sociology, vol. 63, pp. 597-606.

Howard, Alan
1963. Land, activity systems, and decision-making models in Rotuma. Ethnology, vol. 2, no. 4, pp. 407-440.

1964. On the structural analysis of interpersonal relations. Southwestern Journal of Anthropology, vol. 20, no. 3, pp. 261-277.

Huke, Robert E. (ed.)
1963. Shadows on the land: an economic geography of the Philippines. Makati, Carmelo and Bauermann, Inc.

Hymes, Dell
1971. Competence and performance in linguistic theory. In Huxley, Renira and Elizabeth Ingram (eds.), Language acquisition: models and methods. New York, Academic Press; pp. 3-24.

1974. Ways of speaking. In Bauman, Richard and Joel Sherzer (eds.), Explorations in the ethnography of speaking. London, Cambridge University Press, pp. 433-451.

Ienaga, Yasumitsu
1966a. Hirippin no inasakukeiei to suirichitsujo [Management of rice cultivation and irrigation in the Philippines] I. Nōgyo Keizai Kenkyu, vol. 38, no. 4, pp. 182-185.

1966b. Rice culture and irrigation systems in the Philippines. Symposium Series III, Water Resource Utilization in Southeast Asia. Kyoto, The Center for Southeast Asian Studies, Kyoto University, pp. 177-182.

Kalinga-Apayao Province
1967. Inaugural program for the ceremonies marking the formal organization of the Province of Kalinga-Apayao and the induction of its first provincial officials, Tabuk, April 29, 1967. Tabuk, Kalinga-Apayao Province.

1968. Inaugural program for the inauguration of the first elective provincial officials, Tabuk, January 8, 1968. Tabuk, Kalinga-Apayao Province.

Kane, Eileen
1967. Nonunilineality in Oceania: review and alternate hypothesis. In Proceedings of the 1967 Annual Spring Meeting of the American Ethnological Society. Seattle, University of Washington Press, pp. 209-220.

Kaplan, David
1968. The formal-substantive controversy in economic anthropology: reflections on its wider implications. Southwestern Journal of Anthropology, vol. 24, no. 3, pp. 228-251.

Kaut, Charles
1961. Utang na loof: a system of contractual obligation among Tagalogs. Southwestern Journal of Anthropology, vol. 17, no. 3, pp. 356-272.

Kay, H.D.
1974. Milk and milk production. In Cockrill, W. Ross (ed.), The husbandry and health of the domestic buffalo. Rome, Food and Agriculture Organization of the United Nations, pp. 329-376.

Kay, Paul
1966. Ethnography and the theory of culture. Bucknell Review, vol. 14, no. 2, pp. 106-113.

1970. Some theoretical implications of ethnographic semantics. American Anthropologist, vol. 3, no. 3 (part 2), pp. 19-31.

1971. On taxonomy and semantic contrasts. Language, vol. 47, pp. 866-887.

Kearney, Michael
1969. An exception to the "Image of Limited Good," American Anthropologist, vol. 71, no. 5, pp. 888-890.

Keesing, Felix M.
1962. The ethnohistory of Northern Luzon. Stanford Anthropological Series no. 4. Stanford, Stanford University Press.

Keesing, Roger M.
1966. Comment on Colby, B.N., Ethnographic semantics: a preliminary survey. Current Anthropology, vol. 7, no. 1, p. 23.

1967. Statistical models and decision models of social structure: a Kwaio case. Ethnology, vol. 6, no. 1, pp. 1-16.

1969. On quibblings over squabblings of siblings: new perspectives on kin terms and role behavior. Southwestern Journal of Anthropology, vol. 25, no. 3, pp. 207-227.

1970a. Shrines, ancestors, and cognatic descent: the Kwaio and Tallensi. American Anthropologist, vol. 72, no. 4, pp. 755-775.

1970b. Kwaio fosterage. American Anthropologist, vol. 72, no. 5, pp. 991-1019.

1971. Simple models of complexity: the lure of kinship. In Reining, P., Kinship studies in the Morgan centennial year. Washington, D.C., Anthropological Society of Washington, pp. 17-31.

1974. Theories of culture. In Siegel, Bernard J., Alan R. Beals, and Stephen A. Tyler (eds.), Annual review of anthropology. Palo Alto, California, Annual Reviews Inc., pp. 73-98.

Krider, J.L. and W.E. Carroll
1971. Swine production. Fourth edition. New York, McGraw-Hill Book Co.

Krieger, Herbert W.
1942. Peoples of the Philippines. Smithsonian Institution, War Background Studies, no. 4. Washington, The Smithsonian Institution.

Leach, Edmund R.
1960. The Sinhalese of the dry zone of Northern Ceylon. In Murdock, George Peter (ed.), Social structure in Southeast Asia. Viking Fund Publications in Anthropology no. 29. Chicago, Quadrangle Books, pp. 116-126.

1961. Pul Eliya, a village in Ceylon: a study of land tenure and kinship. Cambridge, Cambridge University Press.

1964. Anthropological aspects of language: animal categories and verbal abuse. In Lenneberg, E.H. (ed.), New directions in the study of language. Cambridge, M.I.T. Press, pp. 23-63.

1970. Claude Lévi-Strauss. New York, Viking Press.

LeClair, Edward E., Jr.
1962. Economic theory and economic anthropology. American Anthropologist, vol. 64, no. 6, pp. 1179-1203.

1968. Economic anthropology: readings in theory and analysis. New York, Holt, Rinehart and Winston, Inc.

1969. Comments on Dalton's review article. Current Anthropology, vol. 10, p. 86.

Lee, Richard
1969. !Kung Bushman subsistence: an input-output analysis. In Damas, D. (ed.), Contributions to anthropology: ecological essays. National Museum of Canada Bulletin, No. 230. Anthropology Series no. 86. Ottawa, National Museum of Canada, pp. 73-84.

Lindenbaum, S.
1972. Sorcerers, ghosts and polluting women: an analysis of religious belief and population control. Ethnology, vol. 11, no. 3, pp. 241-253.

Lounsbury, Floyd G.
1960. Similarity and contiguity relations in language and culture. Georgetown University Monograph Series on Languages and Linguistics, no. 12, pp. 123-128. Washington, Georgetown University Press.

1964a. The formal analysis of Crow- and Omaha- type kinship terminologies. In Goodenough, Ward H. (ed.), Explorations in cultural anthropology: essays in honor of George Peter Murdock. New York, McGraw-Hill Book Co., pp. 351-393.

1964b. The structural analysis of kinship semantics. In Lunt, Horace G. (ed.), Proceedings of the Ninth International Congress of Linguists, Cambridge, Massachusetts, 27-31 August 1962. Janua Linguarum, Series Major 12. The Hague, Mouton and Co., pp. 1073-1093.

1965. Another view of the Trobriand kinship categories. American Anthropologist, vol. 67 (part 2), no. 5, pp. 142-185.

Lowie, Robert H.
1928. Incorporeal property in primitive society. Yale Law Journal, vol. 27, no. 5, pp. 551-563.

Lubuagan Municipality, Mountain Province, Republic of the Philippines
1966. Population census, January 1, 1966. (Typescript, signed by municipality secretary). Lubuagan, Lubuagan Municipality.

Lyons, John
1963. Structural semantics: an analysis of part of the vocabulary of Plato. The Philological Society Publication no. 20. Oxford, Basil Blackwell.

Malinowski, Bronislaw
1920. Kula: the circulating exchange of valuables in the archipelagoes of Eastern Guinea. Man, vol. 20, pp. 97-105.

1921. The primitive economics of the Trobriand Islanders. The Economic Journal, vol. 31, pp. 1-16.

1922. Argonauts of the Western Pacific. London, Routledge and Kegan Paul.

Marx, Karl
1971. The Grundisse, ed. and trans. D. McLellan. New York, Harper & Row.

Masefield, G.B.
1955. A handbook of tropical agriculture. Oxford, Clarendon Press.

Mason, I.L.
1974. Environmental physiology. In Cockrill, W. Ross, The husbandry and health of the domestic buffalo. Rome, Food and Agriculture Organization of the United Nations, pp. 88-104.

Mauss, Marcel
1967. The gift: forms and functions of exchange in archaic societies. New York, W.W. Norton and Co., Inc.

McHale, Thomas R.
1952. Problems of economic development in the Philippines. Pacific Affairs, vol. 25, no. 2, pp. 160-169.

Melitz, Jacques
1970. The Polanyi school of anthropology on money: an economist's view. American Anthropologist, vol. 72, no. 5, pp. 1020-1040.

1974. Primitive and modern money: an interdisciplinary approach. Reading, Massachusetts, Addison-Wesley Publishing Company.

Metzger, D. and G. Williams
1963. A formal ethnographic analysis of Tenejapa Ladino weddings. American Anthropologist, vol. 65, pp. 1076-1101.

Mintz, Sidney W.
1961. Standards of value and units of measures in the Fond des Nègres market place, Haiti. Journal of the Royal Anthropological Institute, vol. 91 (part 1), pp. 23-38.

1964a. The employment of capital by market women in Haiti. In Firth, Raymond, and B.S. Yamey (eds.), Capital saving and credit in peasant societies: studies from Asia, Oceania, the Caribbean and Middle America. London, George Allen and Unwin, Ltd., pp. 256-286.

1964b. Currency problems in 18th century Jamaica and Gresham's law. In Manners, R.A. (ed.), Process and pattern in culture: essays in honor of Julian H. Steward. Chicago, Aldine.

Mitchell, William P.
1976. Comments on Canal irrigation and local social organization by William P. Mitchell. Current Anthropology, vol. 17, pp. 401-402.

Miyoshi, Tomokazu
1963. Rusontsubo 'Luzon jars' Tokyo, Bukyo Minzoku-kai, Taisho University.

1964. Tōnan-Azia shozoku haiyō no kubikazaridama (rukusu) [Beads and bead-ornaments in Southeast Asia]. Tokyo, mimeographed.

Molster, H.C.
1970. Notes on rice farming and extension in a Philippine village. In van Breemen, N., et al., Aspects of rice growing in Asia and the Americas. Miscellaneous Papers no. 7, Lanbouwhogeschool Wageningen. Wageningen, The Netherlands, H. Veenman and Zonen N.V., pp. 117-134.

Mount, L.E.
1968. The climatic physiology of the pig. Baltimore, The Williams and Wilkins Co.

Murdock, George Peter
1960. Cognatic forms of social organization. In Murdock, George Peter (ed.), Social structure in Southeast Asia. Viking Fund Publications in Anthropology no. 29. Chicago, Quadrangle Books, pp. 1-14.

Nakajima, Kenichi
1961. Inasakushakai no hattenkōzo. [Developmental structure of rice-producing societies]. Tokyo, Kōsoshobo.

Nash, Manning
1961. The social context of economic choice in a small society. Man, vol. 61, art. 219, pp. 186-191.

Ocampo, Antonio R.
1939-1940. Further studies on the breeding habits of the carabao. Philippine Agriculturist, vol. 28, pp. 286-397.

Odend'hal, Stewart
1972. Energetics of Indian cattle in their environment. Human Ecology, vol. 1, no. 1, pp. 3-22.

Odum, Eugene P.
1959. Fundamentals of ecology. Second edition. Philadelphia, W.B. Saunders Co.

Ognjanovic, A.
1974. Meat and meat production. In Cockrill, W. Ross, The husbandry and health of the domestic buffalo. Rome, Food and Agriculture Organization of the United Nations, pp. 377-400.

Orenstein, Henry
1965. Notes on the ecology of irrigation agriculture in contemporary peasant societies. American Anthropologist, vol. 67, no. 5 (part 1), pp. 1529-1531.

Panoff, Michel
1970. Marcel Mauss's The Gift revisited. Man, vol. 5, no. 1, pp. 60-70.

Parsons, Talcott
1952. The general theory of action systems. In Parsons, Talcott, The social system. London, Tavistock Publications Ltd., pp. 3-23.

Parsons, Talcott, and Neil J. Smelser
1956. Economy and society. Glencoe, Ill., Free Press.

Pelzer, Karl J.
1945. Pioneer settlement in the Asiatic tropics: studies in land utilization and agricultural colonization in Southeastern Asia. New York, American Geographical Society.

Philippine Board of Technical Surveys and Maps
1961. Topographical maps of the Philippines. U.S. Army Map Series no. 711, scale ca. 1:50,000. Manila, Philippine Board of Technical Surveys and Maps in cooperation with the Department of National Defense.

Polanyi, Karl
1957a. The economy as instituted process. In Polanyi, Karl, Conrad M. Arensberg, and Harry W. Pearson (eds.), Trade and market in the early empires. Glencoe, Illinois, The Free Press, pp. 243-270.

1957b. The semantics of money uses. Explorations, vol. 8, pp. 19-29.

1966. Dahomey and the slave trade: an analysis of an archaic economy. American Ethnological Society Monograph no. 42. Seattle, University of Washington Press.

Polanyi, Karl, Conrad M. Arensberg, and Harry W. Pearson (eds.)
1957. Trade and market in the early empires. Glencoe, Illinois, The Free Press.

Pospisil, Leopold
1963. Kapauku Papuan economy. Yale University Publications in Anthropology no. 67. New Haven, Yale University Press.

Price, Barbara J.
1976 Comments on Canal irrigation and local social organization by William P. Mitchell. Current Anthropology, vol. 17, p. 402.

Quinn, Naomi
1975. Decision models of social structure. American Ethnologist, vol. 2, no. 1, pp. 19-45.

Radcliffe-Brown, A.R.
1950. Introduction to African systems of kinship and marriage. In Radcliffe-Brown, A.R. and Daryll Forde, African systems of kinship and marriage. London, Oxford University Press, pp. 1-85.

Rappaport, Roy A.
1967. Pigs for the ancestors: ritual in the ecology of a New Guinea people. New Haven, Yale University Press.

1970. Sanctity and adaptation. Io, Winter (Special Oecology Issue), pp. 46-60.

Ribeiro, Darcy
1970. The culture-historical configuration of the American peoples. Current Anthropology, vol. 11, no. 4-5, pp. 403-434.

Rice Information Cooperative Effort
1967. Rice production manual. Manila, Rice Information Cooperative Effort, mimeographed.

Rivera, Generoso F., and Robert T. McMillan
1954. An economic and social survey of rural households in Central Luzon. Manila, United States Mutual Security Agency.

Robbins, Lionel
1932. The subject matter of economics. In Robbins, Lionel, An essay on the nature and significance of economic science. New York, St. Martin's Press, pp. 1-23.

Sahlins, Marshall D.
1958. Social stratification in Polynesia. The American Ethnological Society Monograph no. 29. Seattle, University of Washington Press.

1960. Political power and the economy in primitive society. In Dole, Gertrude E., and Robert L. Carneiro (eds.), Essays in the science of culture, in honor of Leslie White. New York, Thomas Y. Crowell Co., pp. 390-415.

1963a. Poor man, rich man, big-man, chief: political types in Melanesia and Polynesia. Comparative Studies in Society and History, vol. 5, no. 3, pp. 285-303.

1963b. Review of Murdock, G.P. (ed.), Social structure in Southeast Asia. Journal of the Polynesian Society, vol. 72, pp. 39-50.

1964. Culture and environment: the study of cultural ecology. In Tax, Sol (ed.), Horizons of anthropology. Chicago, Aldine Publishing Co., pp. 132-147.

1965a. Exchange-value and the diplomacy of primitive trade. In Helm, June (ed.), Essays in economic anthropology: proceedings of the 1965 annual spring meeting of the American Ethnological Society. Seattle, University of Washington Press, pp. 95-129.

1965b. On the sociology of primitive exchange. In Banton, Michael (gen. ed.), The relevance of models for social anthropology. A.S.A. Monographs no. 1. London, Tavistock Publications Ltd., pp. 139-236.

1969. Economic anthropology and anthropological economics. Social Science Information, vol. 8, pp. 13-33.

1971. The intensity of domestic production in primitive societies: social inflections of the Chayanov slope. In Dalton, George (ed.), Studies in economic anthropology. Washington, D.C., American Anthropological Association, pp. 30-51.

1972. Stone age economics. Chicago, Aldine-Atherton, Inc.

Salisbury, Richard F.

1962. From stone to steel: economic consequences of a technological change in New Guinea. London, Cambridge University Press.

1968. Anthropology and economics. In LeClair, Edward E., Jr., and Harold K. Schneider (eds.), Economic anthropology. New York, Holt, Rinehart and Winston, Inc., part 5, section 1, pp. 477-485.

1969. Vunamami: economic transformation in a traditional society. Berkeley, University of California Press.

1970. Economics. In von Mering, Otto, and Leonard Kasdan (eds.), Anthropology and the behavioral and health sciences. Pittsburgh, University of Pittsburgh Press, pt. 1, chap. 2, pp. 62-72.

1973. Economic anthropology. In Siegel, Bernard J., Alan R. Beals, and Stephen A. Tyler (eds.), Annual review of anthropology. Palo Alto, California, Annual Reviews Inc., Volume 2, pp. 85-94.

Scheerer, Otto

1921. Kalinga texts from the Balbalásang-Gi[illegible]áan [illegible]up. The Philippine Journal of Science, vol. 1[illegible], pp. 175-207.

Scheffler, Harold W.
1962. Kindred and kin groups in Simbo Island social structure. Ethnology, vol. 1, no. 2, pp. 135-157.

1963. Choiseul Island descent groups. Journal of the Polynesian Society, vol. 72, no. 3, pp. 177-187.

1966. Structuralism in anthropology. In Ehrmann, Jacques (ed.), Structuralism. Yale French Studies, nos. 36-37, 66-88.

Schneider, David M.
1965. American kin terms and terms for kinsmen: a critique of Goodenough's componential analysis of Yankee kinship terminology. American Anthropologist, vol. 67, no. 5 (part 2), pp. 288-308.

Schneider, Harold K.
1964. A model of African indigenous economy and society. Comparative Studies in Society and History, vol. 6, pp. 37-55.

1970. The Wahi Wanyaturu: economics in an African society. Viking Fund Publications in Anthropology, no. 48. New York, Wenner-Gren Foundation.

1974. Economic man: the anthropology of economics. New York, The Free Press.

1975. Economic development and anthropology. In Siegel, Bernard J., Alan R. Beals, and Stephen A. Tyler, Annual review of anthropology. Palo Alto, California, Annual Reviews Inc., volume 4, pp. 271-292.

Scott, William Henry
1958a. A preliminary report on upland rice in Northern Luzon. Southwestern Journal of Anthropology, vol. 14, no. 1, pp. 87-106.

1958b. Economic and material culture of the Kalingas of Madukayan. Ibid., vol. 14, no. 3, pp. 318-338.

1960. Social and religious culture of the Kalingas of Madukayan. Ibid., vol. 16, no. 2, pp. 174-190.

1962. Cordillera architecture of Northern Luzon. Folklore Studies, vol. 21, pp. 186-220.

Selsam, Howard, and Harry Martel (eds.)
1963. Reader in Marxist philosophy. New York, International Publishers.

Service, Elman R.
1962. Primitive social organization: an evolutionary perspective. New York, Random House.

1968. The prime mover of cultural evolution. Southwestern Journal of Anthropology, vol. 24, pp. 396-409.

1971. Profiles in ethnology. Revised edition. New York, Harper and Row, Publishers.

1975. Origins of the state and civilization: the process of cultural evolution. New York, Norton and Co., Inc.

Strathern, Andrew
1968. Descent and alliance in the New Guinea Highlands: some problems of comparison. Proceedings of the Royal Anthropological Institute of Great Britain and Ireland for 1968, pp. 37-52.

1971. Pig complex and cattle complex: some comparisons and counterparts. Mankind, vol. 8, no. 2, pp. 129-236.

Sturtevant, William C.
1964. Studies in ethnoscience. American Anthropologist, vol. 66, no. 3 (part 2), pp. 99-131.

Suttles, Wayne
1960. Affinal ties, subsistence, and prestige among the coast Salish. American Anthropologist, vol. 62, no. 2, pp. 296-305.

Tadaoan, Pio M.
1954. The peace pact as a means of social control in the Mountain Province. Philippine Social Sciences and Humanities Review, vol. 19, no. 1, pp. 87-103.

Takahashi, Akira
1965. Chūbu Ruson no beisaku nōson [Rice-cultivating villages in Central Luzon]. Kenkyusanko shiryo 85. Tokyo, Ajia Keizai Kenkyūsho [The Institute of Asian Economic Affairs].

Takigawa, Tsutomu
1962. Philippine no tochiseido to kosakurippō no tenkai. [The development of the land system and the tenancy law in the Philippines]. Tokyo, Ajia Keizai Kenkyūsho [The Institute of Asian Economic Affairs].

Taylor, Clara M., and Orrea F. Pye
1966. Foundations of nutrition. Sixth edition. New York, Macmillan.

Thurnwald, Richard C.
1932. Economics in primitive communities. London, Oxford University Press for International Institute of African Languages and Cultures.

Umehara, Hiromitsu
1965. Hirippin beisaku nōson no nogyoseisan to nokakeizai no tokushitsu [Characteristics of agricultural productivity and farm-economy in rice-cultivating villages in the Philippines]. In Takigawa, T., and H. Saito (eds.), Ajia no tochiseido to Nōsonshakaikōzo [Tenure system and structure of agricultural societies in Asia]. Tokyo, Ajia Keizai Kenkyūsho [The Institute of Asian Economic Affairs], vol. 1, pp. 205-244.

Van Breeman, N., L.R. Oldeman, W.J. Plantinga, and W.G. Wielemaker (eds.)
1970. The Ifugao rice terraces. In Van Breeman, N., et al. (eds.), Aspects of rice growing in Asia and the Americas. Miscellaneous Papers no. 7, Landbouwhogeschool Wageningen. Wageningen, The Netherlands, H. Venman and N.V. Zonen, pp. 39-73.

Van der Pas, Harrie
1973. Economic anthropology 1940-1972. Oosterhout, Anthropological Publications.

Van der Pas, Harrie and H.K. Schneider
1975. Recent contributions in economic anthropology. Current Anthropology, vol. 16, no. 3, pp. 427-437.

Vanoverbergh, Morice
1929. Dress and adornment in the Mountain Province of Luzon, Philippine Islands. Publications of the Catholic Anthropological Conference, vol. 1, no. 5, pp. 181-242. Washington.

Vayda, Andrew P.
1961. A re-examination of Northwest Coast economic systems. Transactions of the New York Academy of Sciences, Series II, vol. 23, no. 7, pp. 618-624.

1968. Ecology: cultural and non-cultural. In Clifton, James A. (ed.), Introduction to cultural anthropology: essays in the scope and methods of the science of man. Boston, Houghton-Mifflin Co., pp. 476-497.

Villa, Simeon A.
1902. The flight and wanderings of Emilio Aguinaldo, from his abandonment of Bayambang until his capture in Palanan. Affairs in the Philippine Islands, Senate Document no. 331, 57th Congress, 1st session. Washington, Government Printing Office.

Villegas, Valente
1930. Observations on the breeding activities of carabaos. Philippine Agriculturist, vol. 19, pp. 3-9.

Waterlow, J.C., and Joan M.L. Stephen, eds.
1957. Human protein requirements and their fulfillment in practice. Proceedings of a conference sponsored by FAO, WHO and Macy Foundation, Princeton, 1955. Bristol, England, Food and Agriculture Organization of the United Nations; New York, World Health Organization and Josiah Macy Jr. Foundation.

Werner, Oswald
1970. Cultural knowledge, language, and world view. In Garvin, Paul L., Cognition: a multiple view. New York, Spartan Books, pp. 155-175.

1972. Ethnoscience 1972. In Siegel, Bernard J. Alan R. Beals, and Stephen A. Tyler, Annual review of anthropology. Palo Alto, California, Annual Reviews Inc., vol. 1, pp. 271-308.

Werner, Oswald, and Joann Fenton
1973. Method and theory in ethnoscience or ethno-epistemology. In Narall, Raoul, and Ronald Cohen, A handbook of method in cultural anthropology. New York, Columbia University Press, pp. 537-578.

Wernstedt, Frederick L, and J.E. Spencer
1967. The Philippine island world: a physical, cultural, and regional geography. Berkeley, California, University of California Press.

Wesler, P.J.
1924. The food plants of the Philippines. Bureau of Agriculture Bulletin no. 39. 3rd. edition. Manila, Bureau of Printing.

Whitten, N.E., Jr., and D.S. Whitten
1972. Social strategies and social relationships. In Siegel, Bernard J., Alan R. Beals, and Stephen A. Tyler (eds.), Annual review of anthropology. Palo Alto, California, Annual Reviews Inc., vol. 1, pp. 247-270.

Wilmsen, Edwin N.
1972. Introduction: the study of exchange as social interaction. In Wilmsen, Edwin N. (ed.), Social exchange and interaction. Museum of Anthropology, Anthropological Papers, no. 46, Ann Arbor, University of Michigan, pp. 1-4.

Wilmsen, Edwin N. (ed.)
1972. Social exchange and interaction. Anthropological Papers no. 46. Museum of Anthropology, University of Michigan. Ann Arbor, Museum of Anthropology, University of Michigan.

Wilson, Laurence L.
1956. Sapao: Walter Franklin Hale. In memoriam. University of Manila Journal of East Asiatic Studies, vol. 5, no. 2, pp. 1-38.

Wittfogel, Karl A.
1957. Oriental despotism: a comparative study of total power. New Haven, Yale University Press.

Worcester, Dean Conant
1930. The Philippines past and present. New York, The Macmillan Co.

ASPECTS OF EXCHANGE

IN A

KALINGA SOCIETY, NORTHERN LUZON

(Volume III: Appendices)

A Dissertation

Presented to the Faculty of the Graduate School

of

Yale University

in Candidacy for the Degree of

Doctor of Philosophy

by

Michiko Takaki

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APPENDICES

APPENDIX I

RICE MEASURES

Ūma Measures of Rice

Units for Measuring Bundled Rice
Common Units of Dry Measure
Units of Bundled Rice and Dry Measure Capacity of Pounded Rice
Units of Bundled Rice and Weight in Kg of Processed Rice

Unitary Value Scale Used: the Adoption of the 'Bundled Rice' System of Value Measure

Ūma Measures of Rice

Measuring the amount of rice is basic to the economic process in Ūma. It guides the economic activities of the people from production to consumption. There is one measurement for unthreshed rice in the bundled form and another for home-pounded rice. Two of the common measures of value in Ūma are based on these systems of quantifying rice. Because of the local significance of these systems, I make extensive reference to them in this study. Furthermore, "the unitary value scale" used in this study is an adaptation of the bundled rice system of value measure, one of the two local measures of value utilizing the rice standard. Since Ūma measures of rice are indispensable for interpretation of the quantitative data and their discussion in this work, the appendix here presents the specific ways in which these local systems of rice measure are organized.

The first table shows the bundled rice measure which people use to quantify their rice from harvest to threshing. Once pounded, they use dry measure units, which are shown in the second table. The relationships between these two systems of measurement are shown in the third. The last provides useful conversions into weight in kg of unhusked rice as well as home-pounded rice for the units of bundled rice.

1. Units for Measuring Bundled Rice

The minimum unit of the bundled rice measure is botok. This unit is formed at harvest. The harvesters cut the rice panicle by panicle with a knife using one hand to cut and the other to hold the rice at its uppermost panicle-internode. They judge from experience the amount necessary for making the minimum unit. These rice panicles are then tied right below the base by a thin strip of bamboo. The bundle formed is called botok, and the rice in the bundled form bintok.

Although minor variations in size exist between individual bundles, the range of these variations is small. There is, however, a significant difference in the quantity of grains per bundle between the two general varieties of rice, gōyak and gūnoy. First, the number of panicles per botok is greater with the gūnoy than with the gōyak because of a stouter uppermost panicle-internode in the gōyak variety. The number of panicles per botok averages 106 in the case of gōyak (based on the total of 400 botok samples belonging to 16 different owners) and 134 in the case of gūnoy (based on the total of 225 botok samples belonging to 9 different owners). Second, the number of grains per panicle differs between the two varieties. The gōyak has a lesser number of spikelets per panicle and the spikelets are smaller in size in comparison with the gūnoy. The average weight of unhusked

rice from one botok of the qōyak variety is 178 grams, while that of the qūnoy variety is 340 grams. After the rice is home-pounded, it weighs 125 grams per botok if it is the qōyak variety, and 243 grams if qūnoy. The average weight of threshed but unhusked rice and home-pounded rice per unit of bundled rice measure is given in detail in section 4 of this appendix.

Six of the botok bundles are further tied together with a slightly heavier strip of bamboo and make up a next larger unit called qītiŋ. Botok is the minimum transfer unit of pāgoy 'unthreshed rice'. It is used, for example, in lending and borrowing. But, the minimum exchange unit, that is, the minimum unit employed in 'balanced exchange', is not botok but qītiŋ. The significance of the unit, qītiŋ, for consumption is discussed in the notes which accompany the tables on rice consumption.

The qītiŋ is the largest bundle physically tied together. Two qītiŋ bundles make up the unit of nakom. Five nakom units form the unit dālan. Five multiples of the unit, dālan, are called pūwak. Pūwak is the only unit that has no multiple. Ten multiples of the unit dālan constitute the unit, qūvon. These relationships between the units are shown in the following chart.

1. Units for Measuring Bundled Rice

Key:

( ) Figures in parentheses are those customarily used in Ūma to establish unit equivalents.

[ ] Figures in brackets show equivalents in those unit multiples which Ūma residents themselves do not utilize in conceptualizing direct equivalent measures.

unit	equivalent in other units of the same system					
	botok	qītiŋ	nakom	dālan	pūwak	qūyun
botok	1	(6)	[12]	[60]	[300]	[600]
qītiŋ		1	(2)	[10]	[50]	[100]
nakom			1	(5)	[25]	[50]
dālan				1	(5)	(10)
pūwak					pūwak	
qūyun						1

2. Common Units of Dry Measure

Ūma residents measure 'home-pounded rice' (bināyu) by a few of the units which belong to the local system of measuring matopoŋ, 'dry goods' which one can measure by topoŋ 'a large coconut-shell bowl'. The matopoŋ include pounded rice, dried beans, dried coffee beans, salt and sugar. The table below shows the common units of this dry measure.

unit	local equivalents in other units[1]	average capacity in cc[2]
pīdit 'pinch'	none	?[3]
gomgom 'fistful'	1/6 ~ 1/7 dūpas	49
tapāya 'handful'	1/4 ~ 1/5 dūpas	73
ɢakūku 'double handful'	1⁻ dūpas	293
topoŋ 'large-coconut-shell-bowlful'	4± dūpas	1,300
dūpas	1 dūpas	353
silup	10 dūpas	3,530
nāta	6 silup	20,500±
kaban	3 nāta	?[3]

[1]The hand(s) of an adult woman is considered in the equivalents shown in this table for the three units: gomgom 'fistful', tapāya 'handful', and ɢakūku 'double handful'.

[2]'Home-pounded rice' (bināyu) is used for determining an average capacity in cubic centimeters. Capacities vary, depending upon the kinds of things measured, noticeably with larger units and some even with smaller units.

[3]Not measured

Dūpas and silup are the culturally most important units for measuring pounded rice today; nāta and kaban are used to a much lesser extent. All four of these are apparently recent introductions into the region, and three of them, dūpas, silup, and kaban, take after the grain measure units common in the Philippines, chupa, ganta, and cavan, respectively. The latter three units are related in the following way:

1 chupa = 1/8 ganta

1 ganta = 3 liters

1 cavan = 25 gantas

The units used in Ūma deviate from these equivalents as indicated by the local equivalents shown in the table above.

The first four units rarely apply to the measuring of pounded rice and never in transaction; gomgom 'fistful', tapāya 'handful', and gakūku 'double handful' are sometimes used in measuring pounded rice for cooking; and gomgom and tapāya are common units for measuring dried beans to be cooked. The fifth, topoŋ 'large-coconut-shell-bowlful', once served as the most important unit for measuring pounded rice for galos$_{b.1}$ 'exchange'. Today people only occasionally use topoŋ in special kinds of transaction such as gift contribution, but not in galos$_{b.1}$.

3. Units of Bundled Rice and Dry Measure Capacity of Pounded Rice

The equivalents below show relations between the two systems of measure applied to rice, one in the bundled form and the other in the pounded form. The Ūma quantify yields at harvest as well as unthreshed rice in the granary by units in bundle. Pounded rice for daily consumption is measured by a container unit, dūpas. Dūpas and silup are the two most common units in local life for measuring home-pounded rice.

Ūma women estimate their immediate consumption needs of pounded rice (dry measure) and decide the amount of bundled rice they need to pound. In this context qītiŋ, nakom, and dālan are the most significant units of bundled rice because they usually pound rice in a small quantity at one time. The average dry measure quantities are shown below for these three units of bundled rice.

units of bundled rice measure	volume of pounded rice by dry measure per unit of bundled rice (qōyak variety)
qītiŋ	2.5 dūpas
nakom	5.0 dūpas
dālan	2 silup and 5 dūpas

4. Units of Bundled Rice and Weight in Kg of Processed Rice

The table below presents the average weight of threshed but unhusked rice and home-pounded rice recovered per unit of bundled rice.

bundled rice of *gōyak* variety[1]	unhusked rice[2] in kg	home-pounded rice[2] in kg
1 *botok*	0.178	0.125
1 *gītiŋ*	1.07	0.75
1 *nakom*	2.14	1.50
1 *dālan*	10.70	7.50
pūwak	53.50	37.50
1 *gūyon*	107.00	75.00

[1] For conversion to *gūnoy* variety, multiply the weight in kg by 2 (to be exact, the weight of unhusked rice by 1.91 and that of pounded rice by 1.94).

[2] Unhusked rice is prepared for seeds in *Ūma* for the wet-season cultivation by rubbing it with bare feet. The normal procedure of threshing the rice with a pestle does not fully separate all the spikelets from the branches. For my observations, I employed the procedure of seed preparation and then proceeded to have the unhusked rice pounded in the customary way. The average was estimated for 1 *dālan* of the different strains of *gōyak* and of *gūnoy*, and the weights of the other units were calculated from this average.

Unitary Value Scale Used: the Adoption of the 'Bundled Rice' System of Value Measure

As a means of expressing the values of goods in Ūma in a comparable form, I employ, with some modifications, the 'bundled rice' (pāgoy) system of value measure. The use of a unitary value scale is desirable, if at all possible, to compare and examine the relative values of different goods in a society. The 'bundled rice' system of value measure provides the best basis for such a unitary scale for approximating the values of goods in Ūma. Not only does the system operate in the society as the typical value measure for a wide range of commonly transacted goods; but most values expressed in the other local systems of value measure can also be converted into values measured by the 'bundled rice' (pāgoy) system, whereas the contrary is not true. Although such conversions, where necessary, introduce artificiality and some inevitable loss of accuracy, values expressed in the 'bundled rice' system indicate, better than any other alternative systems, the cultural relevance of the locally assigned values while they serve to display for the reader readily comparable relative values of different kinds of goods.

The advantages entailed in the use of the 'bundled rice' (pāgoy) system as the basis for the unitary value scale devised for this study may not be apparent because the use requires some adjustment of the local system. It is therefore, useful first to discuss the basis for my choice of

this system over other alternatives. I will then point out specific deviations of the adopted system from the local one and state relevant conventions followed in this paper.

Considerations of alternatives

Given the desirability of adopting a unitary value scale in the study which purports to examine the local management of material resources in divergent forms, alternatives to the employment of the 'bundled rice' system include: (1) the use of another local system of value measure, (2) the employment of the Philippine national units of account, and (3) the creation of an artificial value scale entirely devoid of any cultural implication.

(1) Multiple systems of value measure operate in the society, and no single system serves as a typical measure for all kinds of goods (see Appendix III). Hence, whichever system we adopt as the basis for a unitary value scale, artificial conversion from one system to another becomes inevitable to a greater or lesser extent. There are three local systems measuring values of goods other than the 'bundled rice' (pāgoy) system: the 'cash' (pinak) system, the 'pounded rice' (bināyu) system, and the 'livestock' (qāyam) system. None of these operates in local contexts as a typical value measure for as broad a range of transactable goods as does the 'bundled rice' (pāgoy) system. Furthermore, each of these alternatives entails additional disadvantages. The 'cash' system as a

local value measure which is derived from but not identical to the Philippine national monetary system can not only become confused with the latter but can also misrepresent locally significant comparative values of different goods. The 'pounded rice' system has an advantage over the 'bundled rice' system in providing a locally used unit which can express smaller values than the latter system, but it is severely limited in expressing greater values. Moreover, most values measured in the 'livestock' system cannot be directly converted into values expressed in the 'pounded rice' system. The 'livestock' (qāyam) system is not only unsuited to express exact value because of an intrinsic characteristic of the system, but also the units as well as relations between those units are so culture-specific that the comparison of relative values expressed with the system can become a problem to those not already familiar with the local culture.

(2) The employment of the Philippine national units of account may appear more informative to the reader since the international monetary exchange rate enables him to assess the values expressed by those units in reference to units familiar to him. However, the attempt to measure the Ūma values of goods with the Philippine national units of account encounters serious difficulty. While such an attempt necessarily requires utilization of the local 'cash' (pinak) value measure as a medium, the interpretation of the unit values of the local system itself presents problems.

The value of the unit pīsus in the Ūma 'cash' system most importantly depends upon the purchasing power of one peso in Nobwāgan with respect to milled rice on sale in the town. Although one can easily identify the dependency as such, it is almost impossible to predict from one's knowledge of local situations the extent to which and the rate at which any change in the second causes subsequent change in the first. A fall in the rice purchasing power of one peso in Nobwāgan, for instance, may not bring about any change in the value of the unit pīsus. If such a fall occurs in the lean season of rice in Ūma, or the decrease is stabilized over months in Nobwāgan, the rice purchasing power of 'cash' (pinak) such as pīsus in Ūma is indeed likely to decrease, but not necessarily to the proportionate level predictable from the ratio between the rice purchasing power of the peso in Nobwāgan and that of the pīsus in Ūma before the decrease in the former.

Furthermore, comparing the rice purchasing power of one peso in Nobwāgan with that of one pīsus 'peso' in Ūma does not provide a direct basis for determining the value of the unit pīsus in terms of the peso. A change in the rice purchasing power of the pīsus in Ūma, caused by a change in the rice purchasing power of the peso in Nobwāgan, does not directly translate itself into a corresponding change in the value of pīsus as a unit of account. In other words, a commodity other than rice may continue to be given the same

value as measured by the 'cash' system despite a fall in the value of one pīsus as measured in 'rice' units. The inevitable adjustment of such a situation takes place only slowly, usually intervened with temporary distrust in 'cash' (pinak) as a medium of exchange.

For example, under the influence of the "inflation" trend in the Philippine national economy, pīsus 'one peso' which was valued as, and exchanged with, 8 dūpas of 'home-pounded rice' (bināyu) in Ūma in the fall of 1964 was regularly valued as, and exchanged with, 5 dūpas of 'home-pounded rice' in 1967 and thereafter until my departure in March 1968. A 'vegetable basket' (dāmus) was valued in the fall of 1964 as 4 dūpas of 'home-pounded rice' in terms of the 'home-pounded rice' (bināyu) system and as salāpi '50¢' in the 'cash' (pinak) system. Despite the change in the value of pīsus as a unit of measure in its application to rice, salāpi '50¢' continued to be the quoted value of the basket until January 1968, when the value jumped to one pīsus '₱1'. In fact, through 1967, 'cash' as goods was hardly acceptable in exchange for the basket. This example serves to indicate the necessity of intricate adjustments and the probable misrepresentation of the local values which are involved in the attempt to establish the unit values of the 'cash' system and translate them into the national system of value measure.

(3) An artificial value scale can display relative values without introducing cumbersome units. Although

elimination of the units unfamiliar to the reader would be beneficial, I have decided not to create an artificial value scale on three major grounds: (i) relative values presented in terms of such an artificial scale would not show any more than those given in terms of the adopted 'bundled rice' system of value measure; (ii) all of the locally assigned values would have to be converted into values along an artificial scale whereas, by adopting the 'bundled rice' system, those values locally measured in terms of that system can remain essentially unaltered; and (iii) no value measured by the artificial scale could express culturally meaningful contents in the way in which values measured by local systems often can. This last consideration, which is of course related to the second, strongly favors the use of one major local value measure.

The use of the 'bundled rice' system does least violence to what the Ūma express in their evaluation -- despite the deviations from their natural usage as shown below -- while it adequately permits, I believe, a quantitative comparison of relative values.

System adopted in this study

The adopted 'bundled rice' system in this study deviates from the local system: (a) by making use of only three of the six units in the local system, and (b) by employing fractions and some multiples that do not normally

occur in the local system.

(a) The six units of the 'bundled rice' (pāgoy) system of value measure are: botok, qītiŋ, nakom, dālan, pūwak, and qūyon. The minimum unit of botok is not locally used in the context of 'balanced exchanged'. Of the remaining five units, I use qītiŋ, dālan, and qūyon for two main reasons. First, they conveniently form a set of decimal measure, i.e., 10 qītiŋ equal 1 dālan, and 10 dālan equal 1 qūyon. This facilitates the reasonable ease with which a reader may assess relative values. Second, I can avoid the extreme artificiality entailed in adopting just one unit, for instance, qītiŋ. The value units in the local system serve as culturally meaningful points of reference in valuation. They reflect social utility assigned to certain quantities of 'bundled rice'. For example, one qītiŋ is the standard daily consumption of one person. The recognized social utility of this quantity of rice provides the conceptual basis on which Ūma residents assess those values of goods expressed by the value unit of qītiŋ. By using at least three units from the local system, I hope to retain some cultural significance to the exchange value they express.

(b) It is inevitable in the adopted system to employ those unit multiples and fractions which are not culturally appropriate. This is firstly because of our partial adoption of the 'bundled rice' system which I have just discussed.

Secondly, we are converting into our unitary scale those values for which Ūma people employ systems of value measure other than that of 'bundled rice'. Thirdly, this study quantifies such great magnitudes of values as the total values of major goods owned, for the estimate of which the residents in Ūma need neither a unitary scale nor exact measures.

Conventions used

The use in Ūma of unthreshed rice both as a measure of the value of many kinds of goods and as a simple measure of quantity of rice introduces another problem. The two major local categories of rice, gōyak and gūnoy, differ from each other with respect to the quantities of grains per unit of bundles; on the average, one bundle of gūnoy yields twice as much by weight of home-pounded rice as one of gōyak. In Ūma, unqualified use of the 'bundled rice' value measure implies a valuation of goods in terms of a quantity of the gōyak variety; when Ūma people assess the values of goods in bundles of the gūnoy variety, they will so specify. In this study, I follow this local practice. Values expressed in our adopted system are based on the gōyak variety of rice, unless otherwise qualified.

In the tables, I have used the following abbreviations for the three units: t for gītiŋ, d for dālan, and y for gūyon. Thus, "one gūyon and one dālan and one gītiŋ" appear as lyldlt."

In those specific contexts in which the local practice of evaluating goods bears on arguments presented in this study, their values first appear in terms of whichever local value measure is actually used. Where the value measures used are other than those of the pāgoy system, values in terms of the latter will also be shown, usually in parentheses following the first indication of the values in terms of other systems.

APPENDIX II

ŪMA LIVESTOCK CLASSIFICATION

Domain qāyam

Openness of the boundary characterizes the domain of qāyam 'livestock'. Any four-legged terrestrial mammals or two-legged, winged creatures that lay eggs can be incorporated into the domain if tamed and domesticated. The term qāyam may be properly glossed as 'any domesticated, warm-blooded, non-human creatures'. I use the term 'livestock' in this study as a short convenient label.

The ten taxa contrasting at "level I" in the diagram represent all the general categories of qāyam held by Ūma residents during my stay. These ten do not make up a closed set. As shown by the inclusion of such obviously recent introductions as $bāka_1$ 'cow' and $kabāyu_1$ 'horse', new ones may easily be added. For example, a single wild bird, of a taxon outside of the domain qāyam, will, if caught and tamed, be accepted as a member of qāyam and assigned a taxonomical position on "level I" even if it is the sole sample of the taxon. On the other hand, such a segregate loses its taxonomical status in domain qāyam when the unique sample ceases to be one of the 'domesticated, warm-blooded, non-human creatures' -- either by death or by return to a non-domesticated state. If an individual from an unnamed category is introduced, it may be regarded as a sample of one of the existing taxa. If individuals

of the category continue as members of gāyam, however, differences between their morphological features and cultural utilities and those of the existing taxa will cause the creation of a new name for the former and result in its taxonomical separation.

Hierarchic arrangement

Distinct categories of livestock contrast with each other on "level I", as indicated by the double vertical lines in the diagram below. Each category is subdivided into two segregates, mature vs. immature. Finer maturity stage distinctions are common and further divide these segregates into more specific categories. Thus, categories subordinate to a "level I" taxon form a subhierarchy with two further levels of contrast.

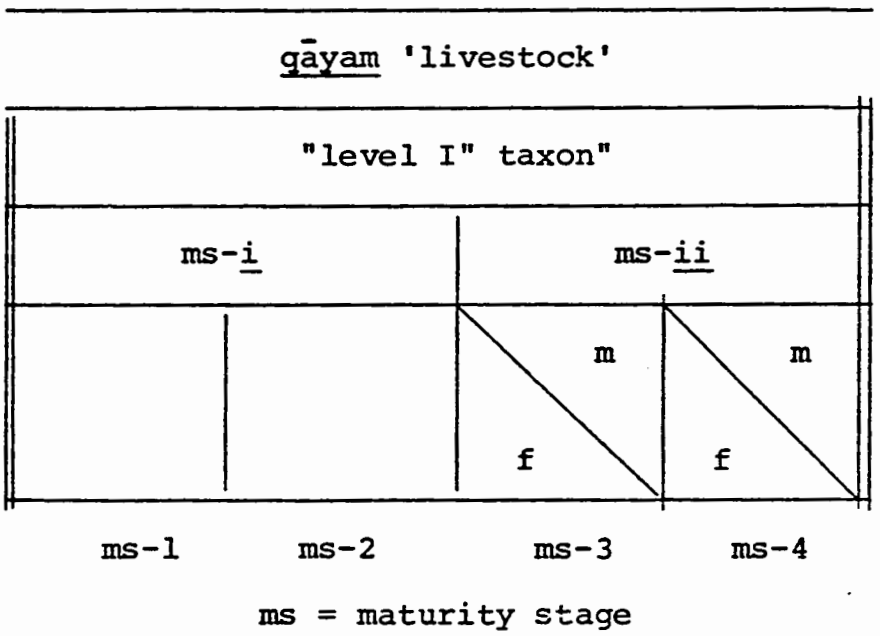
Extra-hierarchic arrangement

Coordinate subcategories of a given "level I" taxon are paradigmatically arranged on each level of contrast along two dimensions of contrast: (1) maturity stage and (2) sex. Maturity stage distinction, the more dominant of the two, is indicated by regular, in contrast to double, vertical lines. Sex distinction, shown by an S-slant line, divides some maturity-stages into binary contrast pairs.

Basic structure

The diagram below displays the basic arrangement of

specific segregates included in a given "level I" taxon. The arrangement seems to provide the most productive structural pattern in the Ūma classification of warm-blooded creatures, including humans (see Fig. 9).



Contrasting features along the two dimensions, maturity stage and sex, are listed below.

Maturity stage:

at the intermediate level of contrast --

i. child, or sexually immature

ii. adult, or sexually mature

at the terminal level of contrast --

1. nursing stage

2. weaned but sexually immature

3. sexually mature (i.e., mating observed) but not yet reproduced

4. fully mature and reproduced

sex: a female\male distinction in each of maturity stages 3 and 4

The distinction between maturity stages 3 and 4 is not as clear for males as it is for females. Reproduction serves as a distinguishing criterion for the latter. Males of two successive maturity stages are distinguished by particular physical features and/or relative body sizes. Assessment of the horn lengths of water buffalo is an example of the first, and that of the body length of a pig, i.e., from the ground to the animal's back in the standing position, illustrates the second. Gradual progressive change in these physical features results in membership overlap for a certain range on the continuum of growth, but the "focal referents" are distinct for the contrasting folk taxa.

The specific arrangement of subcategories subordinate to a particular "level I" taxon reflects this "basic structure" though modified by further specification and/or neutralization. For example, a finer discrimination is made along the dimension of the maturity stage on the terminal level of contrast for those kinds of livestock such as pigs which play an especially significant role in Ūma economic performance.

Segregates of qāyam

The diagram* below shows the segregates of <u>qāyam</u> 'livestock' and their structural arrangements discussed above.

Key to the diagram:

——— = levels of contrast

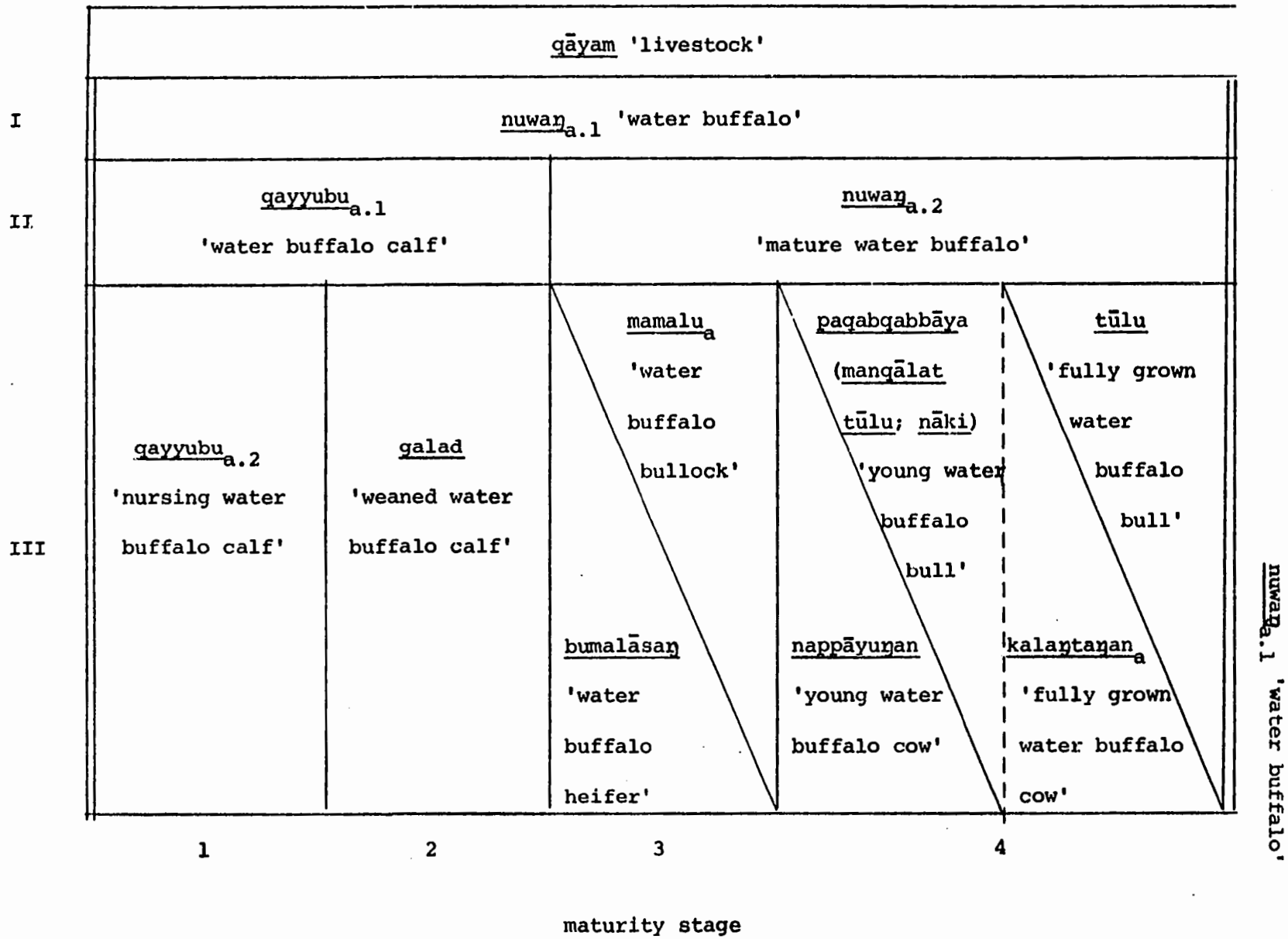
‖ = contrastive taxa at "level I"

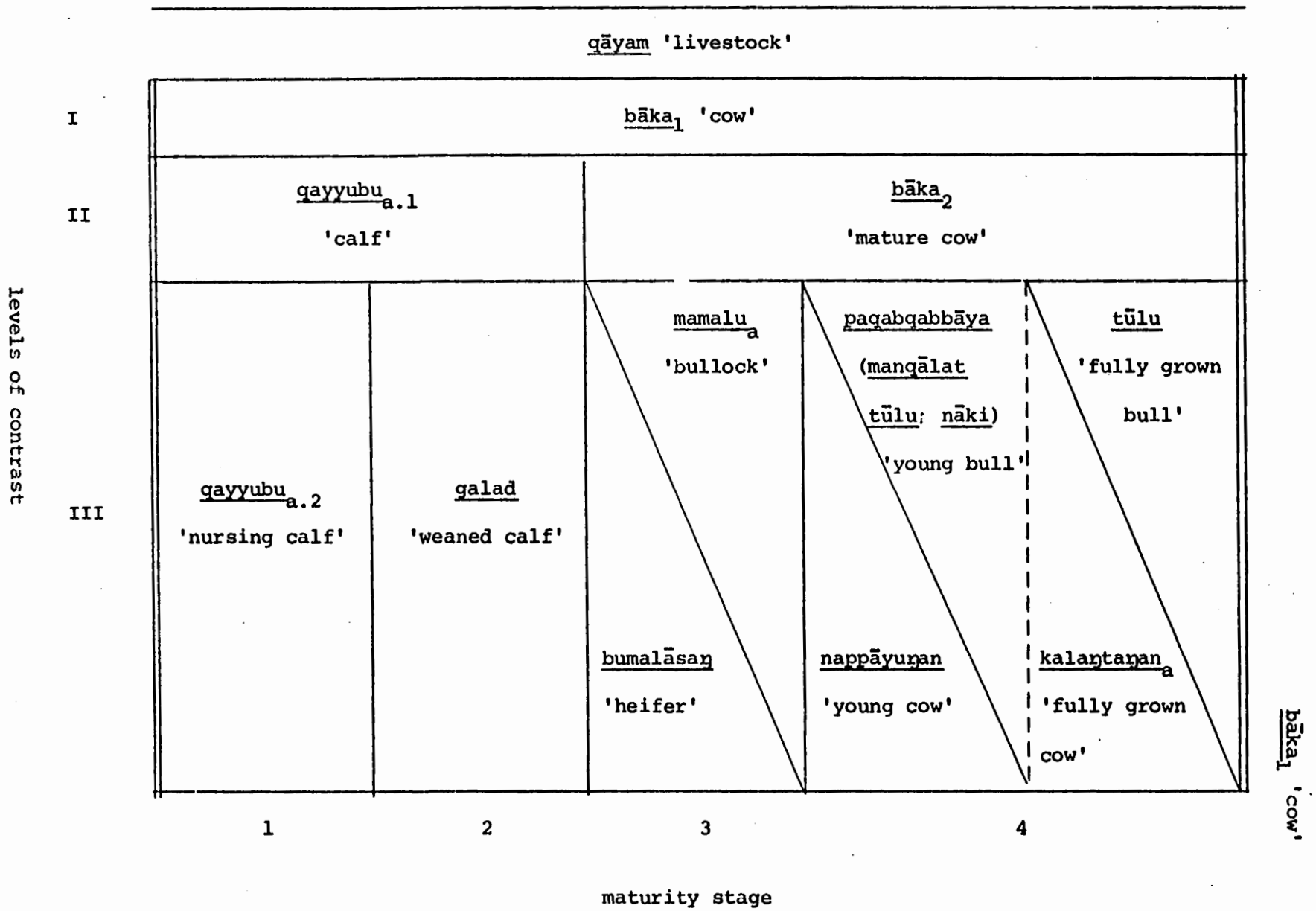
| = coordinate taxa, subordinate to a single "level I" taxon and contrasting along the dimension of maturity stage

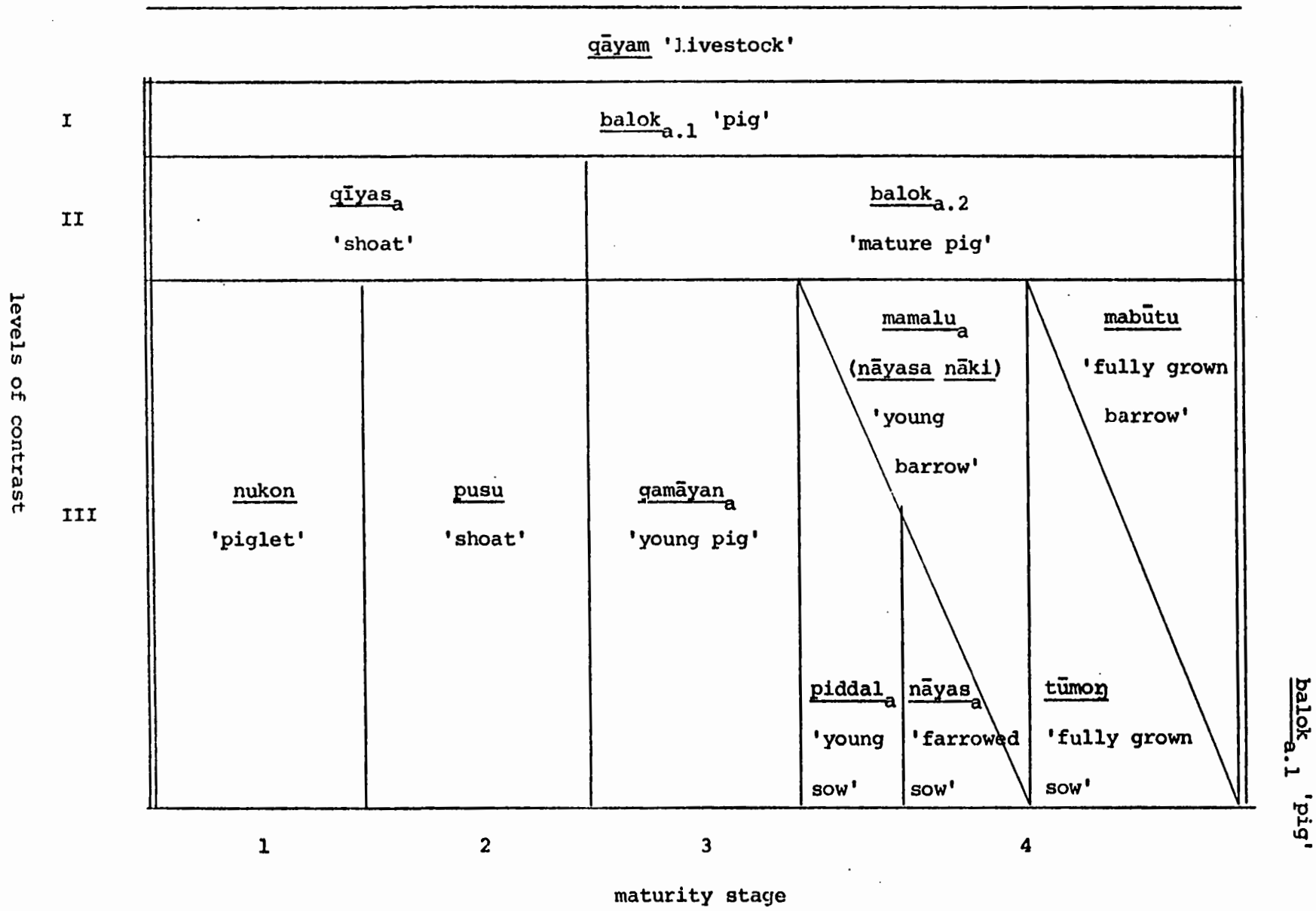
¦ = overlaps in membership of succeeding maturity stages

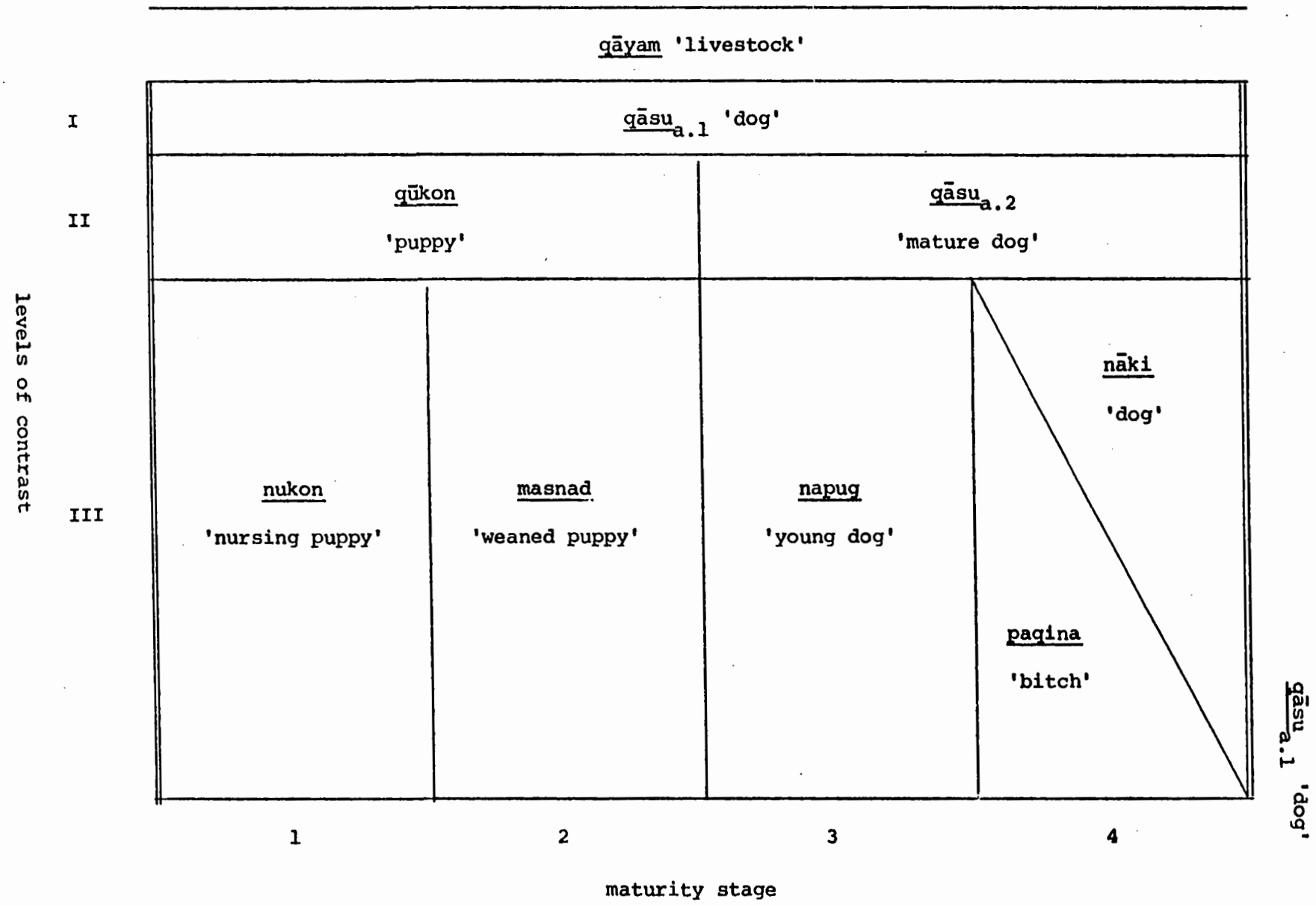
m / f = binary contrast of male/female opposition

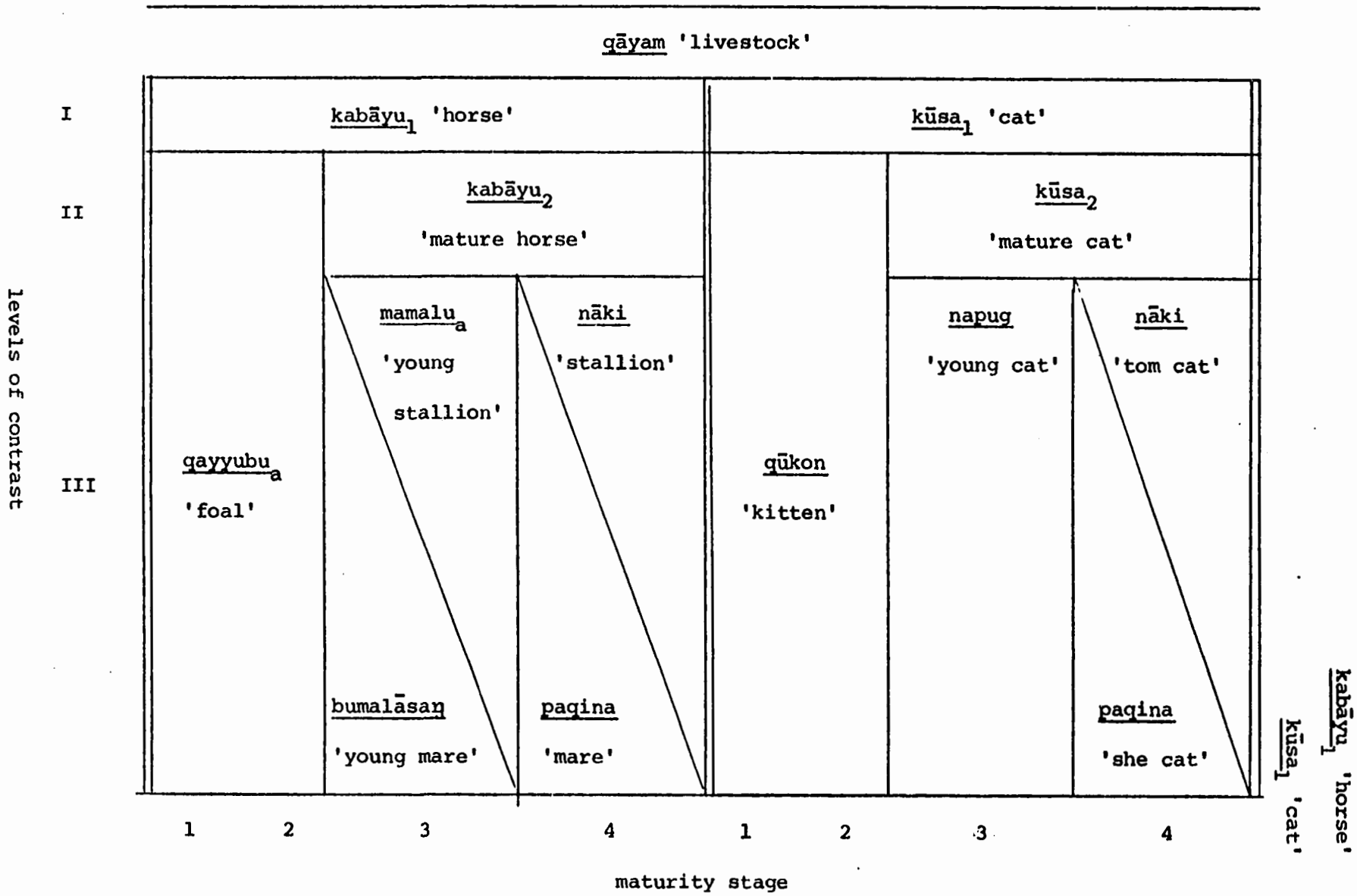
*The diagram referred to is found on the following pages.

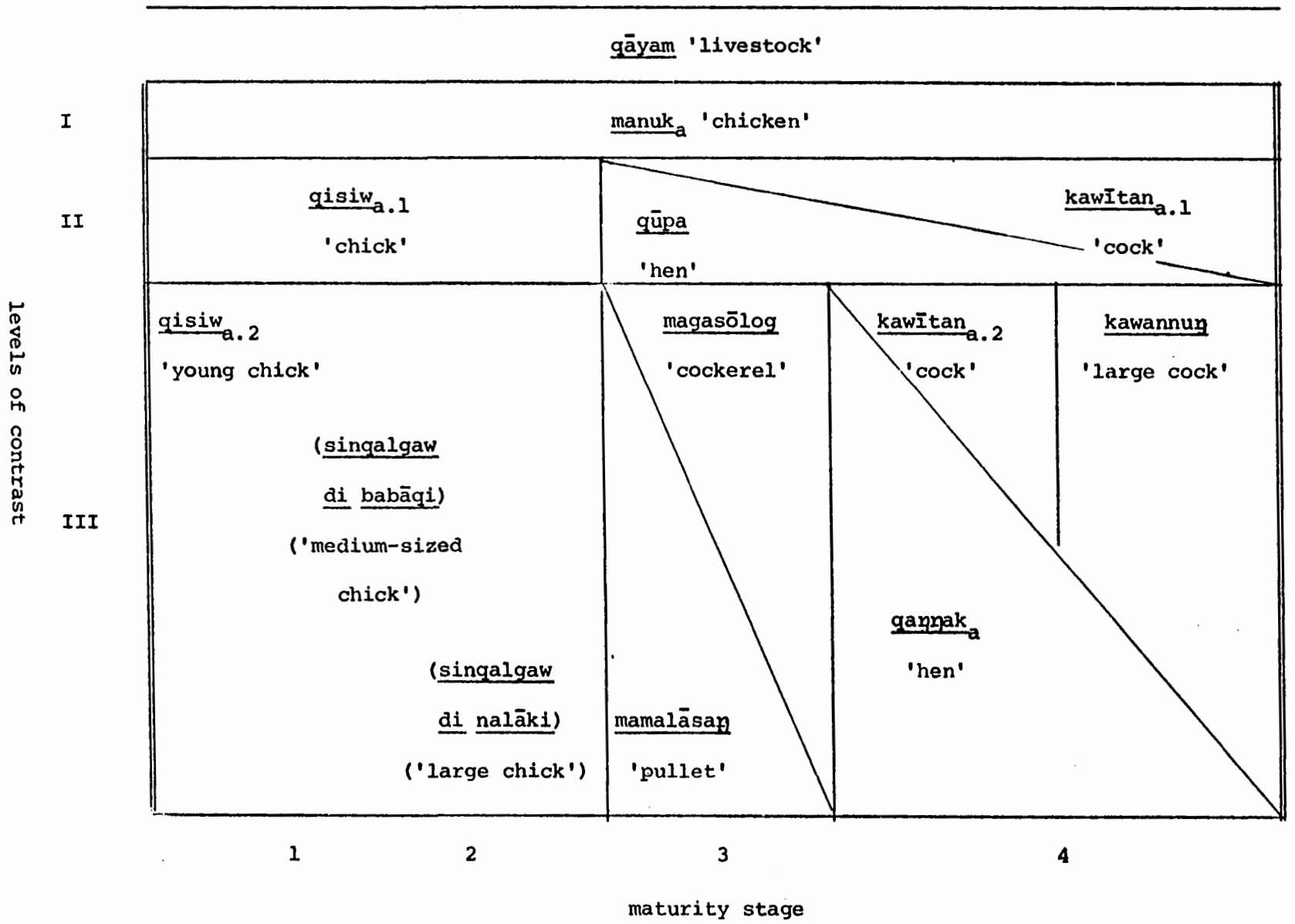


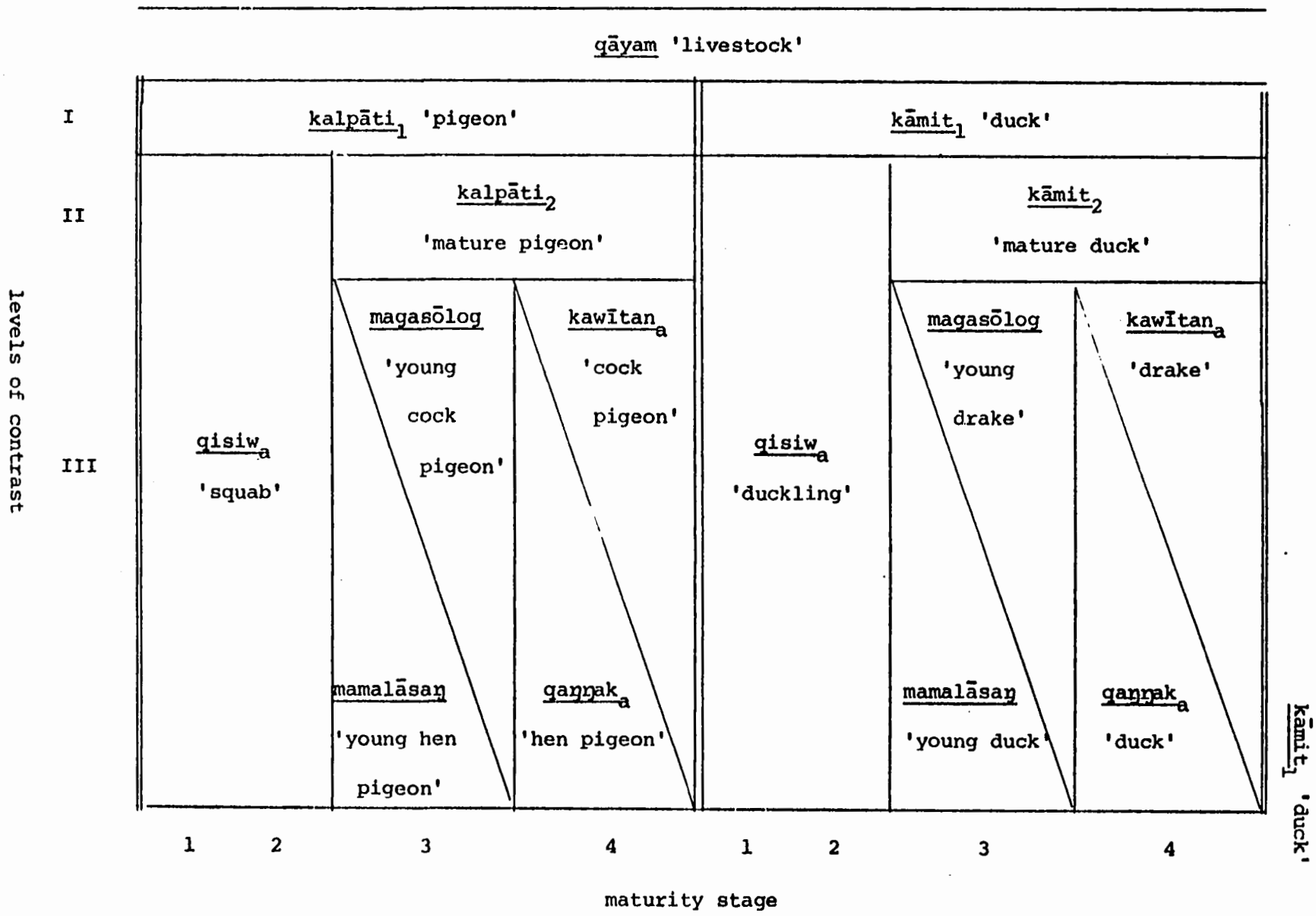




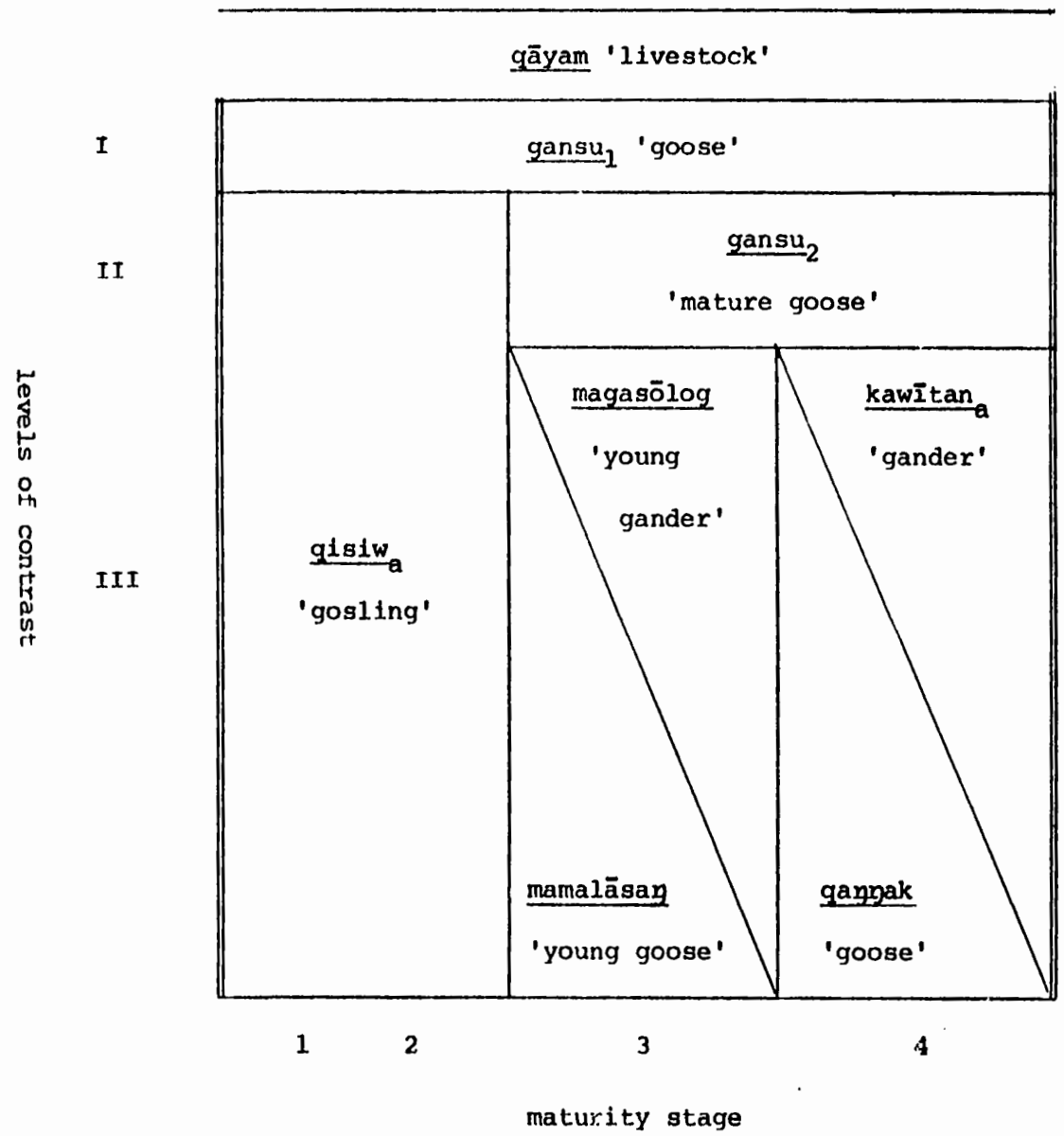








gansu$_1$ 'goose'



Category of balok$_{a.1}$ 'pigs'

A brief characterization of the terminological categories of balok$_{a.1}$ 'pigs' in the diagram below illustrates the ways in which local keepers classify their domestic animals primarily by (1) maturity stage and (2) sex. This also indicates the approximate ages and live weights of pigs in each specific category to provide the reader with a basis for comparison.

Category nukon, glossed as 'piglet', is that of sucklings. The sucklings are generally nursed for three months or even longer before they are completely weaned. Individuals vary greatly in size. Larger ones appear to weigh about 1 kg at birth, the majority less. Mortality is high, noticeably so in the first few weeks. Sometimes none survive out of a litter, or only one or two. A few sows, however, always distinguish themselves by being good-natured, healthy mothers and by having more than five piglets survive out of each litter. The economic value of the sucklings is minimal. They are eaten if they are found dead but they are rarely slaughtered. There is no concept of a typical nukon as there is for the typical pusu 'shoat' or gamāyan$_a$ 'young pig'. Every 'piglet' is a nukon until it is about to wean.

By the time piglets are weaned they weigh about 8 kg more or less. Weaned, but not yet sexually mature, they are called pusu, glossed as "shoats'. The sizes and growth rates of 'shoats' of a given litter vary considerably, apparently depending upon feeding and the quality of the earlier nursing.

Segregates[1] of balok$_{a.1}$ 'pigs': Approximate Age and Weight

Key to the diagram

↑ : approximate live weight range
↓
( ) : approximate live weight of a typical sample

maturity stages (approximate ages)	sex: male	sex: female
ms-5 (10± yrs.)	? ↑ mabūtu (80 kg) 'fully grown barrow' ↓ 70kg	80 kg ↑ tūmoŋ (70 kg) 'fully grown sow' ↓ 50 kg
ms-4 (18⁻ mos.)	↑ mamalu$_a$ (55 kg) 'young barrow' ↓ 30⁺ kg	↑ nāyas$_a$ (45 kg) ↓ 'farrowed sow' 40 kg (2.5⁻ yrs.) ↑ piddal$_a$ (30⁺ kg) ↓ 'young sow' 30⁻ kg
ms-3 (6⁺ mos.)	gamāyan$_a$ 'young pig' (23 kg) ↓ 15 kg	
ms-2 (3⁺ mos.)	pusu 'shoat' (10 kg) ↓ 8 kg	
ms-1	nukon 'piglet'	

[1]Terminal segregates only.

The typical pusu -- in the eyes of local residents -- weighs around 10 kg. The 'shoats' are eagerly traded and are among the most commonly slaughtered 'pigs' (see Table 52). Ūma keepers castrate more than one half of the males soon after weaning if not before.

When 'shoats' mate or reach about 15 kg in live weight, whichever is earlier, they are classified as gamāyan$_a$, glossed here as 'young pigs'. According to Ūma farmers, shoats can reach this stage as early as six months after birth. According to my observation, however, most of the youngest pigs classified as gamāyan$_a$ are older. Those pigs locally viewed as the typical gamāyan$_a$ weigh around 23 kg. They are viewed as "respectable" in size when used for ganu 'prescribed livestock slaughter'. Almost all males of this category, gamāyan$_a$, are slaughtered. Only a few of the healthiest and fattest among the castrated are spared and grow to become mamalu$_a$ 'young barrows'.

At what age a male pig grows out of category gamāyan$_a$ and becomes a member of category mamalu$_a$ cannot be clearly determined. The size of the pig is the important criterion. Ūma residents determine this by the height and the body girth of the animal. For a pig to be obviously classified as one of the mamalu$_a$ 'young barrows' it has to be larger than 30 kg in live weight. Some pigs grow to this size at a little over 12 months of age, but others not for two years or more. The 'young barrow' weighing around 55 kg is what the farmers consider typical of the mamalu$_a$ category.

A barrow, weighing around 70 kg or more, is classed as a mabūtu 'fully grown barrow'. One mabūtu reputed in the region as a "real" mabūtu weighed 82 kg. There were others which were larger. I could not measure their weight, and I am unable to report the maximal weight of a 'fully grown barrow'. The number of years it takes a young barrow to gain 40 more kilograms over the first 30 kg varies. I estimate that a barrow classified as mabūtu is at least 8 to 10 years of age. There are few barrows of this age and there was only one in settlement Baŋtitan at the time of a census in October 1967 (see Table 42).

When a female gamāyan$_a$ 'young pig' becomes pregnant for the first time, she is on the verge of becoming a piddal$_a$ 'young sow'. To emphasize the value of the sow, her keeper may indeed refer to her as piddal$_a$. Ūma farmers report that good healthy young sows start farrowing soon after seven or eight months of age. But, the youngest sow was 13 months at her first successful farrowing, and usually a sow is nineteen months of age before having surviving piglets. I have discussed the low success rate of a sow's first farrowing in the notes accompanying the tables on Ūma livestock. Of course, the weight of a 'young sow' varies greatly before and after pregnancy. She loses considerable weight (10 kg or more) during farrowing and nursing. Weight loss and gain by an individual sow is more noticeable than weight variation between different sows.

When a sow becomes pregnant again following her first

successful litter, she is classified as nāyas$_a$, glossed in this study as 'farrowed sow'. A few sows farrow again soon after the weaning of their sucklings, but most 12 months or more later. On the average, there is a one year interval between two successive litters. Typically a sow is 2 to 2 1/2 years of age when she becomes a nāyas$_a$. A nāyas$_a$ is usually most productive between 4 and 6 years of age. Weight varies between individuals, roughly from 40 to 50 kg. There is not much substantive weight gain by a given sow over several years of her career as a nāyas$_a$ -- fluctuations in weight due to farrowing and nursing aside.

When a 'farrowed sow' (nāyas$_a$) noticeably gains weight, usually after she ceases to farrow, she is referred to as tūmoŋ 'fully grown sow'. Since few nāyas$_a$ 'farrowed sows' are permitted to survive beyond their most productive age, there are as few samples of the tūmoŋ as those of the mabūtu (see Table 42). I weighed two of the sows local residents judged smaller than the typical tūmoŋ. One of them weighed 53 kg and the other 60 kg.

In conclusion, the locally recognized utility and hence potential economic value of different types of pigs shape the terminological classification of balok$_{a.1}$. The physiological facts, maturity stage and sex, basically determine economic value. The sucklings suffer a high mortality. They are of low value, as they cannot be separated from their mothers nor slaughtered for a feast. Weaning marks the beginning of stage two maturity, at which piglets clearly increase in value. A large proportion of animals --

especially males of this stage -- are needed for a modest feast.

Sexual maturity distinguishes stage three from stage two. No terminological distinction is made between the two sexes of stage three during which the reproductive value of the females remains unproven. In the local evaluation of the 'young pigs' in this third maturity stage for transaction or for slaughter, their size, and not their sex, is the critical variable. Notwithstanding, practically all males of this category are slaughtered, while a good proportion of the females are kept (see Tables 42 and 52). Once a female's reproductive ability is proven, and the few surviving males distinguish themselves by an impressive increase in body size, sex serves as the basis for terminological distinctions. The sows are further classified by farrowing activity, and the barrows by size. For the reasons discussed in the last chapter of this study, an extremely small number of pigs live to the final stage, stage five as shown in the diagram above. We may consider this stage as a special subdivision of maturity stage four of the "basic structure" of livestock classification.

APPENDIX III

SYSTEMS OF VALUE MEASURE

Units of value measure

By units of value measure, I refer to those accounting units in terms of which people in Ūma fairly regularly measure and express the values of goods and services. Parties to transaction compare equivalents of various goods which are expressed by the multiples of these units.

Several separate measures operate in the society for measuring and expressing the values of goods. Each is a system of fairly standardized units of value measure. The systems of value measure pertinent to 'balanced exchange' and the units of each will be presented below, following a brief discussion on a distinction between value measures and media of exchange.

Value measures vs. media of exchange

It is important to distinguish value measures, i.e.,

the abstract systems of measuring and expressing the value of goods, from media of exchange, i.e., goods commonly used to settle transactions. These two are separate even in a society with a highly developed and controlled monetary system. For example, in the United States, there is only one basic unit of account, the dollar. However, the media of exchange include not only coins and Federal Reserve notes but also demand deposits, postal money orders, cashier's checks, traveler's checks, and others. While the unit of account is the same in all contexts, the medium of exchange is not. Varying contexts determine the appropriate medium of exchange.

The situation is exceedingly complex in the society where there are several kinds of value measures as well as several kinds of media of exchange. Moreover, Ūma units of value measure are commodity units. They are based upon the idealized quantities and/or qualities of certain goods. Furthermore, actual goods of these categories function not only as commodities but also as media of exchange.

All names of units of value measure are polysemous forms (see discussion in Chapter IV). A name labeling a unit of value measure may also label a specific good or a customary unit by which to assess the amount of a specific good. When this good is employed as a medium of exchange, the same name both for the medium of exchange and for the unit of value measure can blur their difference, especially

when the name tends to suggest a concrete object such as balok 'pigs'.

Although some units of value measures in Ūma frequently coincide with particular goods, other units do so only occasionally. For example, one of the units in the 'livestock' (qāyam) system of value measure is named nuwaŋ 'water buffalo'. However, the water buffalo in existence at any one point in time rarely belongs to the specific set bearing an exchange value of one in terms of this 'water-buffalo' unit of account. Stated differently any animal named nuwaŋ 'water buffalo' cannot serve as the unit in terms of which exchange value is expressed although it may serve as a medium of exchange. The failure to distinguish value measure from media of exchange can lead to confusion and the misunderstanding of the local system.

Value measures are employed in a wide range of situations, external to 'balanced exchange', such as assignment of inheritance among the children and determination of 'reparation' (sukat). In contrast, the use of media of exchange is limited only to 'balanced exchange'. Furthermore, 'balanced exchange' does not always make use of media of exchange. There is barter. Yet, in most cases of barter, the equivalence of goods about to be exchanged needs to be established by means of commonly recognized measures of value.

The units of account essential to 'balanced exchange'

form part of four major value measure systems which have wide application in the society. Although these systems contain some units not commonly employed for 'balanced exchange', it is best to introduce each complete system of value measure and show the interrelationships of units within it.

Systems of value measure

The following four systems of value measure provide the units of account for measuring and expressing the values of goods in contexts relevant to 'balanced exchange':

(1) 'cash' (pinak) system,

(2) 'home-pounded rice' (bināyu) system,

(3) 'bundled rice' (pāgoy) system, and

(4) 'livestock' (gāyam) system.

The fourth, 'livestock' (gāyam) system, has two subsystems: 'water buffalo' (nuwaŋ) subsystem, and 'chicken' (manuk) subsystem. These and one other value measure, 'rice-field' (payaw) system, make up the major systems of value measure in the society. The last operates only in relation to such special unilateral payment as 'wergild' (dūsa$_{a.i}$) and will not be discussed below. I describe each of the first four systems and two subsystems by stating the units of each system and the rules underlying culturally appropriate statements of value in that system.

Statements of value. Regarding statements of value in Ūma, a few points of clarification are in order. First, value statements are distinct from numerical statements. Second, not all statements of value occur in the contexts specific to galos$_{b.1}$ 'balanced exchange'.

(1) I have observed above that Ūma units of value measures are commodity units. As suggested by the names for value measures just listed, these units represent the idealized quantities and qualities of the four categories of goods: pinak 'cash', bināyu 'home-pounded rice', pāgoy 'bundled rice', and gāyam 'livestock'. I employ the term "value goods" to refer to particular tokens of these categories, which function as commodities themselves. Because quantification of these goods provides the basis for units of value measure, value statements made in terms of these units expectedly share a number of lexical items in common with numerical statements of these commodities. Partial lexical similarities are deceptive, and distinction between the two kinds of statements needs to be underlined.

Earlier discussion of units of value measure and media of exchange has already indicated that a certain number or amount of a particular value good may not always represent the value expressed in terms of that number of amount of that good. In addition, two other aspects of difference must be observed between culturally appropriate statements of values and numerical statements on value goods:

(a) lexical materials and their arrangements, and (b) maximal magnitudes of multiples of units.

(a) Two separate rules govern the occurrence of lexical materials and their arrangement for stating values of goods and for naming the objects and their numbers or amounts, although the rules generate identical linguistic expressions in certain cases. Take, for example, three Philippine coins each bearing the face value of 5¢. The name of the coin is tansu, and so is the name of a value-measure unit bearing the value of 5¢. The numerical statement of these three coins and their value statement are identical: "tulun tansu" which can be glossed as 'three five-centavos-coins' and '15¢' respectively. However, if there are two such coins, the numerical statement of these coins is "duwan tansu 'two five-centavos-coins'," which is not a statement of value. The latter takes the form of "sagis '10¢'." The two statements are roughly equivalent to "two tens" and "twenty dollars." The former is a statement of two ten-dollar bills, and the latter a statement of the value of the bills. The description of value statements below does not account for appropriate numerical statements. 'Bundled rice' (pāgoy) value measure and 'home-pounded rice' (bināyu) value measure are presented in this section separate from the non-value measures of these goods which are given in Appendix I.

(b) The maximal magnitude of multiples of units for

expressing the values of goods are not coextensive with the linguistic competence in counting the number of objects. The Ūma decimal system of counting has three units, pūlu '10', gasut '100', and nību '1000' and adequately facilitates counting up to 10,000. (Lexical items enable naming the number even up to 999,999. But, a number of such magnitude is meaningless to Ūma residents much in the same way that the denomination "decillion" is to ordinary persons in the United States.) Hence, a statement "10,000 pīsos" would be possible as a count of one-peso bills. But, the same statement could not occur in expressing the values of goods.

The maximal multiple of a value-measure unit in each system, if not determined by the structural features of the system itself, is delimited both by the magnitude of abstract number which is meaningful to Ūma residents and by the maximum value of goods which is ever assessed and discussed in that system. It is up to 20 that ordinary Ūma adults readily manipulate abstract numbers for direct addition and subtraction. Abstract manipulation of a number of a greater magnitude requires a named unit to stand for a particular number. The maximal multiple of the unit of greatest value in each system of value measure seldom exceeds 20. Variations exist between the systems and will be noted in relation to each system.

(2) Statements of value in the society are not

limited to the context of 'balanced exchange', as already noted in relation to the function of value measures. The value of goods assessed and discussed for the potential and actual contexts of <u>galos</u>$_{b.1}$ 'balanced exchange' will be referred to as "exchange values," which will be examined later in detail. Not all forms of value statement in the society are appropriate as statements of exchange values although the difference is small. A few among the units of four value measures seldom occur in the context of 'balanced exchange', whereas all these units are employed to express the values of goods in one or another of other contexts. <u>Botok</u>, the unit of least value in 'home-pounded rice' value measure, is an example. The unit serves to express payment obligations but rarely values of goods associated with 'balanced exchange'.

Moreover, statements specific to quotation of unit values, i.e., assignment of values to basic exchange units of various goods, may not employ all units and unit multiples which are otherwise appropriate for statements of exchange values in some contexts of 'balanced exchange'. For example, <u>silup</u>, the greater of the two value units which make up 'home-pounded rice' value measure, is not a unit commonly employed in unit-value quotation. However, the unit properly serves to express the sum of values of two or more basic exchange units. Conventional restrictions on the use of units and unit multiples, which are specific to value

statements in the context of galos$_{b.1}$, will also be specified for each system.

General attributes of value measures. Before describing each system of value measure, it is useful to list a few characteristics generally shared by the different systems. This will serve (a) to indicate some systematic features of Ūma value measure, (b) to avoid repeating the same restrictions and specifications for separate systems, and (c) to provide a guideline for describing each system.

First, there are two general restrictions on the use of value-measure units. Second, a set of ordered rules govern arrangement and selection of units for expressing values in a given system. The first of these two applies to both the four systems of value measures and the two subsystems, while the second applies only to the four systems.

Restrictions on the use of value units. (1) No value may be expressed in fractions of any unit, that is, all values are expressed only in multiples of a unit. (2) Culturally acceptable multiples of nonmaximal value units are determinate. The largest multiple of the greatest value remains indeterminate in terms of the internal organization of each system, but it is restricted by the two factors which have already been discussed: the magnitude of abstract number meaningful to local residents and the maximum value of goods relevant to local assessment and discussion carried out in a given system.

Rules for arrangement and selection of units. A set of rules govern the appropriate form of each value statement with respect to (a) sequential arrangement of units and (b) selection of certain units instead of certain other units in the presence of alternatives for expressing a particular value. Rules i, iii, and iv below apply equally to all four systems; rule ii is specific to each particular system. The four rules and the order in which they must be applied are as follows:

Sequential arrangement of units:

i. The unit of greatest value in the initial position and the unit of least value in the final position when more than one unit are employed to express a given value.

ii. Certain units, in addition to the unit of least value, can occur only in the final position. Contextual restrictions regulate the occurrence of some other units in nonfinal positions. Certain other units may occur in any position. These positional restrictions are specific to each system with respect to particular units within it.

Selection among alternative units:

iii. The least number of different units.

iv. Smaller multiples of the unit of greater value, rather than larger multiples of the unit of less value.

Format for describing each system of value measure. As already implied by the above statements on general attributes, the description of each system must minimally specify: (a) units, (b) acceptible multiples of respective units, and (c) positional restrictions on certain units.

In the following description, I present for each system: (1) units, and their cognitive equivalents in other units of the same system; (2) rules for unit employment; (3) examples of generating culturally appropriate statements of value; and (4) restrictions specific to statements of exchange value.

There are two parts to (2) above. (a) I list acceptable multiples of units and comment on the upper limit for multiples of the greatest value unit in unspecialized value statements. (b) I state the rules of unit arrangement and selection, which I have enumerated above as i, ii, iii, and iv. Since the content of rule ii is specific to a particular system, it alone is spelled out in each case. However, because the four rules must be applied in the order specified, I list them all for each system and merely refer to rules i, iii, and iv, as "general rule i, iii, or iv," respectively.

For (3) of this presentation, examples are given for generating an appropriate designation of a certain value. For this purpose, the value to be expressed in the appropriate form is given initially as the sum of two or more values,

each of which is stated in the acceptable form and marked by parenthesis. The problem is to produce the appropriate form for a statement of the total value. Unless exception is noted, the cognitive equivalent(s) of each unit in a system operates as a kind of "substitution rule(s)" for converting a value represented by a multiple of another unit. Standard procedure is to apply one substitution rule at a time (without employing multiplication or division) to a smallest applicable unit so that a given value will be represented by smaller multiples of the unit of greater value rather than larger multiples of the unit of less value. Substitution rules will be applied in the reverse conversion, i.e., conversion of the smaller multiples of the units of greater value to the larger multiples of the unit of less value, only when such conversion is called for because of rules ii or iii for unit arrangement or selection. Application of substitution rules is repeated until the specified total value is expressed in terms of acceptable multiples of appropriate units in accordance with all pertinent rules. (Translation of the final form into an appropriate linguistic expression requires further rewriting of arabic numerals, standing for unit multiples, and the plus sign, representing the sequential unit combination.) In each example below, the appropriate form appears without parenthesis after a series of applications of substitution rules.

In section (4), I discuss conventional restrictions,

if any, specific to statements of exchange value. Units and their multiples making up general value statements, as specified in the first three sections, may not all be appropriate in conventional statements of exchange value or in statements specific to quoting the unit values of various goods. Pertinent restrictions will be discussed to serve the primary objective of this presentation: the description of the means by which people express and compare values of goods in all contexts relevant to 'balanced exchange'.

'Cash' (pinak) system of value measure:-

1. Units

unit	value in Philippine government controlled units of account	cognitive equivalents in other units
sīpiŋ	1¢	
tansu	5¢	5 sīpiŋ
saqis	10¢	2 tansu
patītas	20¢	2 saqis
bintiŋ	25¢	1 patītas + 1 tansu, or 5 tansu
salapi	50¢	2 bintiŋ
pīsus or pisqin	₱1.00	5 patītas, or 2 salapi

2. Rules for unit employment

a. Acceptable multiples of units

unit	acceptable multiples of respective units
sīpiŋ	1 ~ 10
tansu	1 ~ 5
saqis	1 ~ 10
patītas	1 ~ 5
bintiŋ	1 ~ 5
salapi	1 ~ 5
pīsus or pisqin	1 ~ indeterminate*

*The frequency of actual use is highest with the first few multiples and decreases with larger multiples. Multiples 11 ~ 20 occur much less frequently than multiples 1 ~ 10 but they still serve to designate values which most people in Ūma hold by common consensus. Multiples greater than 100 do occur, and about one third of the adult population refers to the more "knowledgeable" for information on the specific values which such large multiples represent.

Multiples greater than 500 no longer occur as meaningful designations of values. The multiple 1000 is sometimes used to refer to the value of prized property and to indicate its "great value" rather than a specific value represented by ₱1000.

b. Rules of unit arrangement and selection (to be applied in the order of their listing below)

i. general rule i;

ii. tansu, bintiŋ, and salapi, only in the final position, i.e., never followed by smaller units;

iii. general rule iii;

iv. general rule iv.

3. Examples of generating appropriate value statements

(1) (3 saqis) + (3 tansu)

-> (3 saqis) + (1 saqis + 1 tansu) [by saqis equival.]

-> (1 patītas + 1 saqis) + (1 saqis + 1 tansu) [by patītas equival.]

-> 2 patītas + 1 tansu [by patītas equival.]

(2) (1 bintiŋ) + (1 saqis) + (3 tansu)

-> (1 bintiŋ) + (2 tansu) + (3 tansu) [by saqis equival.]

-> (1 bintiŋ) + (1 bintiŋ) [by bintiŋ equival.]

-> 1 salapi [by salapi equival.]

(3) (1 bintiŋ) + (3 patītas) + (3 tansu)

-> (1 bintiŋ) + (1 bintiŋ + 2 patītas + 2 tansu) [by bintiŋ equival.]

-> (1 bintiŋ) + (2 bintiŋ + 1 patītas + 1 tansu) [by bintiŋ equival.]

-> (1 bintiŋ) + (3 bintiŋ) [by bintiŋ equival.]

-> (1 bintiŋ) + (1 salapi + 1 bintiŋ) [by salapi equival.]

-> (2 salapi) [by salapi equival.]

-> 1 pīsus [by pīsus equival.]

(4) (1 pīsus + 4 patītas) + (3 saqis + 1 tansu) + (1 salapi)

→ (1 pīsus + 4 patītas) + (1 patītas + 1 saqis + 1 tansu) + (1 salapi) [by patītas equival.]

→ (1 pīsus + 4 patītas) + (1 bintiŋ + 1 saqis) + (1 salapi) [by bintiŋ equival.]

→ (1 pīsus + 4 patītas) + (1 bintiŋ + 2 tansu) + (1 salapi) [by saqis equival.]

→ (1 pīsus + 2 bintiŋ + 3 patītas + 1 tansu) + (1 salapi) [by bintiŋ equival.]

→ (1 pīsus + 1 salapi + 3 patītas + 1 tansu) + (1 salapi) [by salapi equival.]

→ 2 pīsus + 3 patītas + 1 tansu [by pīsus equival.]

4. Restrictions specific to statements of exchange value

The smallest unit, sīpiŋ, is seldom used in the usual contexts of 'balanced exchange'. Values represented by this unit are too small to be useful in those contexts. In occasional trade of imported goods for children's consumption, such items as candies may be priced as 4 sīpiŋ (4¢) a piece. Aside from such infrequent and specialized trade, the minimum unit employed is saqis (10¢) (as recorded in my fieldwork).

For the specific purpose of quoting the values of basic exchange units of various goods, multiples of pīsus larger than 10 are employed only occasionally. Those larger than 100 are used almost exclusively in assigning values to large animals, to which 'bundled rice' value measure as well as 'livestock' value measure also apply.

'Home-pounded rice' (bināyu) system of value measure:-

1. Units

unit	value in numbers of dūpas	cognitive equivalents in other units
dūpas	1	
silup	10	10 dūpas

2. Rules for unit employment

a. Acceptable multiples of units

unit	acceptable multiples of respective units
dūpas	1 ~ 9
silup	1 ~ 2*

*The multiple of silup larger than 2 rarely occurs in value statement although no unit of greater value exists in this system.

b. Rules of unit arrangement and selection (to be applied in the order of their listing below)

i. general rule i;
ii. no relevant rule specific to this system;
iii. general rule iii;
iv. general rule iv.

3. Examples of generating appropriate value statements

(1) (3 dūpas) + (3 dūpas) + (4 dūpas)
-→ (10 dūpas)
-→ 1 silup [by silup equival.]

(2) (6 dūpas) + (5 dūpas)
-→ (11 dūpas)
-→ 1 silup + 1 dūpas [by silup equival.]

4. Restrictions specific to statements of exchange value

In assigning values to basic exchange units, common

multiples of the unit dūpas are 1~5. Multiples greater than 5 occasionally occur. The use of the unit silup is rare in statements of unit values. Silup is used in such other contexts of 'balanced exchange' as stating the value of goods in a greater quantity than their basic exchange units and the sum of two or three unit values, each expressed in the unit dūpas. However, as noted under (2) above, for a value statement in general, the multiple of silup is ordinarily limited to one only.

'Bundled rice' (pāgoy) system of value measure:-

1. Units

unit	value in numbers of botok 'minimal bundle'	cognitive equivalents in other units
botok	1	
qītiŋ	6	6 botok
nakom	12	2 qītiŋ
dālan	60	5 nakom
pūwak	300	5 dālan
qūyon	600	10 dālan

2. Rules for unit employment

a. Acceptable multiples of units

unit	acceptable multiples of respective units
botok	1 ~ 6
qītiŋ	1 ~ 10
nakom	1 ~ 5
dālan	1 ~ 10
pūwak	1
qūyon	1 ~ 20*

*Value statements in terms of larger multiples of qūyon than 10 are not common. Multiples larger than 20 never occur in meaningful statements of value.

b. Rules of unit arrangement and selection (to be applied in the order of their listing below)

i. general rule i;

ii. pūwak, only in the final position;

iii. general rule iii;

iv. general rule iv.

3. Examples of generating appropriate value statements

(1) (2 nakom) + (3 qītiŋ) + (3 qītiŋ)

--> (2 nakom) + (1 nakom + 4 qītiŋ) [by nakom equival.]

--> (2 nakom) + (2 nakom + 2 qītiŋ) [by nakom equival.]

--> (2 nakom) + (3 nakom) [by nakom equival.]

--> 1 dālan [by dālan equival.]

(2) (1 pūwak) + (1 dālan + 5 qītiŋ)

--> (5 dālan) + (1 dālan + 5 qītiŋ) [by pūwak equival.]

--> 6 dālan + 5 qītiŋ

(3) (1 pūwak) + (4 dālan) + (3 dālan)

--> (5 dālan) + (7 dālan) [by pūwak equival.]

--> 1 qūyon + 2 dālan [by qūyon equival.]

4. Restrictions specific to statements of exchange value

In the contexts of 'balanced exchange', the smallest unit botok does not serve as a unit to express value, and the use of qūyon in multiples larger than 10 is unusual. In the more specific contexts of assigning values to basic exchange units, qītiŋ, nakom, and dālan are most commonly used, and the multiple 9 is the recorded maximum of the values expressed in terms of qūyon.

'Livestock' (gāyam) system of value measure:-

The 'livestock' system of value measure differs from the other three in several ways. Therefore, I will first remark briefly on the major differences in order to qualify the description of the 'livestock' system, which presents only the main structure of the system.

First, the units of 'livestock' value represent overlapping ranges of value rather than exact points on a value scale. The greater the value of a unit and the larger the multiples of a given unit, the less exact the denoted values tend to be. Second, this implies that a distance between two values on the scale cannot always be precisely determined. 'Livestock' value measure, as it is generally used, is an ordinal scale whereas the other three value measures are interval scales. Third, in the case of the units derived from balok$_{a.1}$ 'pigs', alternative units are acceptable in expressing a particular range of value. In contrast, in terms of each of the other three value measures, there is only one appropriate form for stating a particular value.

Fourth, units of this system are largely derived from three subcategories of gāyam 'livestock': manuk$_{a.1}$ 'chickens', balok$_{a.1}$ 'pigs', and nuwaŋ$_{a.1}$ 'water buffalo'. The units derived from one of these subcategories are not combined in a single given value statement with units derived from another, even when units represent adjacent values. Instead, units derived from manuk$_{a.1}$ make up one

subsystem and those derived from nuwaŋ$_{a.1}$ another subsystem. The subsystems serve to specify, when relevant, narrower ranges of value within the broader ranges initially defined by the unit manuk$_b$ or the unit nuwaŋ$_c$ of the main system. It must also be noted that both the rule against combining the three sets of units in a single value designation and the presence of two subsystems suggest a logical possibility that the units derived from balok$_{a.1}$ 'pigs' may also belong to a separate subsystem. The presence of a unit named balok$_b$ seems to support this possibility. Nevertheless, all four balok$_{a.1}$-derived units occur in contexts in which manuk$_b$ and nuwaŋ$_c$ as value units of the main system also occur, and all these units are in direct contrast. For the present purpose, therefore, the units derived from balok$_{a.1}$ are an integral part of 'livestock' value measure, although further analyses may reveal ethnographic evidence for a status of these units separate from the main system.

Despite the lack of precision in specifying a value and the flexibility permitted in the use of some units and their multiples, the 'livestock' system does serve as an effective value measure. No dispute ever arises concerning relative magnitudes of values expressed in the system, and furthermore, in any particular context of value attribution, the narrow range of a particular value measured by the units of this system is understood by common consensus.

There is a commonly recognized "primary range" of

value within the maximal range which can be represented by a given unit. Moreover, within this primary range, there is a "focal value," which serves Ūma evaluators as the referent value for that unit. In the case of adjacent values, the secondary ranges, i.e., the outer limits of value represented by particular units, overlap, but the primary ranges seldom overlap, and the focal values never coincide. The context of evaluation determines whether a value should be identified in a broader or narrower range, and hence, whether a given unit is employed to designate the secondary range, primary range, or focal value.

Description below offers the bare outline of the system and can show neither ranges of values nor the extent of flexibility inherent in the system. Those characteristics not shown below will be discussed separately later. Under (1) below, in order to indicate to the reader the magnitude of value represented by each unit and the overall regularity governing the magnitudes of different units, I resort to the use of the unitary value scale adopted for this study from Ūma 'bundled rice' value measure. The use of any other measure for this purpose only increases ambiguity and confusion. A value -- instead of a range of value -- is shown, although strictly speaking, the focal value of each unit is not just a point but a significantly narrowly defined range, which approaches a specific value in the case of smaller value units. Variations occur in the use of certain

units and their multiples for expressing a particular value. But their most common usage is identifiable. In (2) and (3) below, I give those rules of unit employment which underlie the most typical statements of value expressed in this system and illustrate their application by examples.

'Livestock' (qāyam) system of value measure:-

1. Units

unit	focal value in 'bundled rice' value measure	common cognitive equivalents in other units
manuk$_b$	4t	
qīyas$_b$ or qāsu$_b$*	2d0t	5 manuk$_b$
gamāyan$_b$	8d0t	4 qīyas$_b$ or 4 qāsu$_b$
piddal$_b$ or balok$_b$*	1y0d0t	1 gamāyan$_b$ + 1 qīyas$_b$
nāyas$_b$	1y6d0t	1 piddal$_b$ + 3 qīyas$_b$
nuwaŋ$_c$	5y0d0t**	2 nāyas$_b$ + 1 piddal$_b$ + 1 gamāyan$_b$

*Of the two alternatives, generally qīyas$_b$ and piddal$_b$ are used more than qāsu$_b$ and balok$_b$ respectively.

**This focal value specifically represents that of one nuwaŋ$_c$. Values expressed by other multiples of this unit deviate from the corresponding multiples of the value of one nuwaŋ$_c$. See discussions in the 'water buffalo' subsystem.

2. Rules for unit employment in typical statements

a. Most commonly used multiples of respective units

unit	common multiples of respective units
manuk$_b$	1 ~ 5
qīyas$_b$ or qāsu$_b$	1 ~ 4
gamāyan$_b$	1
piddal$_b$ or balok$_b$	1 ~ 3
nāyas$_b$	1 ~ 3
nuwaŋ$_c$	1 ~ 20*

*The multiple 20 is the maximum recorded in serious value statements, i.e., not in the context of mere boasting.

b. General rules of unit arrangement and selection (to be applied in the order of their listing below)

i. general rule i;

ii. gamāyan$_b$ and qīyas$_b$ only in the final position, and nāyas$_b$ in a nonfinal position usually only when followed by piddal$_b$;

iii. general rule iii;

iv. general rule iv.

Qualification for rules iii and iv:

(a) Rules iii and iv above are waived when the objects of evaluation are individuals of the livestock folk taxa which are ideal tokens for the respective value units. Thus, one pig of the category nāyas is evaluated with units other than nāyas$_b$. Even if the pig happens to bear the value of one nāyas$_b$, its price quotation takes the form of "1 piddal$_b$ + 3 qīyas$_b$."

(b) Rules iii and iv are disregarded under several circumstances, which include the attempt on the side of evaluators to narrow the range of value by a given designation rather than others. The smaller the focal value of a unit, the more restricted the range of specific values the multiples of that unit represent.

3. Examples of generating typical value statements

(1) (3 qīyas$_b$) + (2 qīyas$_b$)

-> (1 gamāyan$_b$ + 1 qīyas$_b$) [by gamāyan$_b$ equival.]

-> 1 piddal$_b$ [by piddal$_b$ equival.]

(2) (1 gamāyan$_b$) + (1 gamāyan$_b$) + (3 qīyas$_b$)

-> (1 piddal$_b$ + 1 gamāyan$_b$ + 2 qīyas$_b$) [by piddal$_b$ equival.]

-> 2 piddal$_b$ + 1 qīyas$_b$ [by piddal$_b$ equival.]

(3) (1 $\underline{\text{nāyas}}_b$) + (2 $\underline{\text{piddal}}_b$ + 4 $\underline{\text{qīyas}}_b$)
→ 2 $\underline{\text{nāyas}}_b$ + 1 $\underline{\text{piddal}}_b$ + 1 $\underline{\text{qīyas}}_b$ [by $\underline{\text{nāyas}}_b$ equival.]

4. Restrictions specific to statements of exchange value

So far as forms are concerned, all forms appropriate for general value statements do serve to express exchange value. In quoting unit value, the maximum multiple of the unit $\underline{\text{nuwaŋ}}_c$, among the actual cases recorded, is 18.

In negotiation intent on particular 'exchange', units of value measure are often manipulated to suit the benefits seen from each transactor's vantage. Measures by the units of this main 'livestock' system normally establish the basis for the initial agreement. When the $\underline{\text{nuwaŋ}}_c$ or $\underline{\text{manuk}}_b$ unit is employed, transactors pursue further negotiation in terms of one or the other subsystems so that they can more precisely assess the magnitude of different values negotiated. When the other units apply, negotiation for a specific value is carried out by employing each unit in reference to its focal value, by combining appropriate units, and/or by qualifying descriptively a value to be represented by each unit.

'Water buffalo' (nuwaŋ$_c$) subsystem:-

The use of this subsystem is restricted to the secondary conversion of the ranges of value which have been already represented on the ordinal scale defined by the nuwaŋ$_c$ unit of 'livestock' system. The subsystem serves to narrow down these ranges usually to reach specific agreement in a particular transaction. It is in reference to the agreed value expressed in this subsystem that parties to the transaction negotiate the specific kinds and amounts of goods to change hand.

Four units in this subsystem provide three specific substitution formulae which apply in converting the values stated by multiples larger than two of the nuwaŋ$_c$ unit into comparatively more precisely measurable values. Unlike the four main systems, the rule itself of applying these substitution formulae predetermines which of the units is to be used for expressing each particular value.

The application of the substitution formulae, combined with restrictions on acceptable multiples of the subsystem units, reveals measurable magnitudes of different values expressed in the nuwaŋ$_c$ unit. As seen below, values expressed by multiples from three to seven of the nuwaŋ$_c$ form a curve as a function of decreasing value represented by each increment in the multiple, and values expressed by multiples greater than seven approximate a gradual straight line as the result of more or less constant value represented by each additional increment in the multiple.

1. Units

unit	focal value in 'bundled rice' value measure
gayyubu$_b$	3y0d0t
mamalu$_b$	4y0d0t
nuwaŋ$_c$	5y0d0t
kalaŋtaŋan$_b$	5y5d0t

2. Rules for unit employment in restating a value expressed by the nuwaŋ$_c$ unit of 'livestock' value measure

a. Acceptable multiples of units

unit	acceptable multiples of respective units
gayyubu$_b$	1 ~ 3*
mamalu$_b$	1 ~ 3
nuwaŋ$_c$	1 ~ 2
kalaŋtaŋan$_b$	1 ~ 2

*The maximum multiple of the gayyubu$_b$ unit is dependent upon the multiple of the nuwaŋ$_c$ unit. The former is 13 when the latter is 20 as seen from the substitution formula and the rule for their application below.

b. Rules of unit arrangement and selection

The following three substitution formulae are applied in the order in which they are listed here, i.e., from a to c, until, and only until, the value in question is expressed by the acceptable multiples of respective units. General rule i for sequential arrangement of units is also effective (i.e., the unit of greatest value in the initial position and the unit of least value in the final position).

a. 2 nuwaŋ$_c$ -> 1 kalaŋtaŋan$_b$ + 1 mamalu$_b$

b. 1 nuwaŋ$_c$ -> 1 mamalu$_b$

c. 1 nuwaŋ$_c$ -> 1 qayyubu$_b$

3. Examples of generating appropriate value statements

(1) 3 nuwaŋ$_c$
-> 1 kalaŋtaŋan$_b$ + 1 nuwaŋ$_c$ + 1 mamalu$_b$
[by substitution a]

(2) 4 nuwaŋ$_c$
-> 1 kalaŋtaŋan$_b$ + 2 nuwaŋ$_c$ + 1 mamalu$_b$
[by substitution a]

(3) 8 nuwaŋ$_c$
-> (1 kalaŋtaŋan$_b$ + 6 nuwaŋ$_c$ + 1 mamalu$_b$)
[by substitution a]
-> (2 kalaŋtaŋan$_b$ + 4 nuwaŋ$_c$ + 2 mamalu$_b$)
[by substitution a]
-> (2 kalaŋtaŋan$_b$ + 3 nuwaŋ$_c$ + 3 mamalu$_b$)
[by substitution b]
-> 2 kalaŋtaŋan$_b$ + 2 nuwaŋ$_c$ + 3 mamalu$_b$ + 1 qayyubu$_b$
[by substitution c]

(4) > 7 nuwaŋ$_c$

In generating the proper restatement of the value "8 nuwaŋ$_c$," example (3) above shows that restrictions on the acceptable multiples of the respective units operate to keep the first three units and their multiples as the constant constituents of value statements designating values greater than "7 nuwaŋ$_c$." Substitutions a and b produce those constituents for expressing the value "7 nuwaŋ$_c$." Substitution c operates to increase by one increment the multiple of the unit qayyubu$_b$ in this subsystem for each additional increment in the multiple of nuwaŋ$_c$ as a unit of the 'livestock' system.

'Chicken' (manuk) subsystem:-

The 'chicken' (manuk) subsystem plays a relatively minor role in value attribution in the society. First, the use of the $manuk_b$ unit of 'livestock' value measure is comparatively limited. Second, since the $manuk_b$ unit represents the least value of the system, the maximum range of value it can represent is small. Moreover, local significance of those values expressed by the unit is hardly as great as that of values expressed by such units as $nuwan_c$. The simple organization of the 'chicken' subsystem reflects the minor role assigned to it. Reevaluation by this subsystem of values first expressed by the $manuk_b$ unit of the 'livestock' system is not always obligatory. The subsystem is used for reevaluation when value specification more exact than what the smallest unit of the 'livestock' system can express is required or desired.

Description below roughly follows the format adopted for presentation of other value measures. However, abstract rules are not stated for unit arrangement and selection. Instead, I comment on how units are ordinarily used. Comment also takes the place of examples.

1. Units

unit	focal value in 'bundled rice' value measure
gisiw$_b$	2t
manuk$_b$	4t
kawītan$_b$ or gaŋŋak$_b$	6t

2. Use of units

a. Acceptable multiples of units

unit	acceptable multiples of respective units
gisiw$_b$	1
manuk$_b$	1 ~ 4
kawītan$_b$ or gaŋŋak$_b$	1 ~ 3

b. Remarks on the use of units

The value initially represented as "one manuk$_b$" in terms of the 'livestock' system covers the maximum range of value "2 - 6 gītiŋ" in terms of our 'bundled rice' value measure adopted for this study. When more precise assessment is called for, this value is further reevaluated by the units listed above, as "one manuk$_b$" or "one kawītan$_b$," or occasionally as "one gisiw$_b$." Similarly, within the range of value initially expressed as "two manuk$_b$" in the 'livestock' system, which is somewhat greater than the equivalence of "6 gītiŋ" but not as much as "1 dālan + 2 gītiŋ," "2 manuk$_b$" of this subsystem represents the value in the neighborhood of "4 gītiŋ," and "1 kawītan$_b$ + 1 manuk$_b$" represents the value roughly equivalent to "1 dālan."

The unit gisiw$_b$ plays a limited role, usually standing for "the value which is barely one manuk." The unit, alternatively called kawītan$_b$ or gaŋŋak$_b$,

3. Restrictions specific to statements of exchange value

The unit qisiw$_b$ does not serve to express exchange value although the use of the unit is not unusual for stating the value of service or of gift goods, or payment obligation. The multiple 4 of the manuk$_b$ unit is seldom employed in assigning value to basic exchange units. In the context of unit value quotation, "one qīyas$_b$" by the main 'livestock' system is more common as a statement expressing the value which might be expressed as "four manuk$_b$."

Summary

The four systems of value measure provide Ūma residents with conventionally established units in terms of which they usually measure and express the values of goods and compare equivalents of various goods expressed in those units. For potential transaction of the goods which commonly change hand through qalos$_{b.1}$ 'balanced exchange', customary quotation of unit value is given by applying one or more of the four value measures to the basic exchange units of those goods.

Systems of value measure indispensable in establishing balanced equivalence for qalos$_{b.1}$ are each structured after the idealized quantities and qualities of four categories of goods: pinak 'cash', bināyu 'home-pounded rice', pāçɔy 'bundled rice', and qāyam 'livestock'. I have referred to these categories of goods as value goods. Although the particular goods of these categories also function both as media

of exchange and as commodities, I have underscored the importance of distinguishing commodity-based units of value measure from media of exchange, and value statements given in terms of those units from numerical statements of the value goods as commodities. The function of each needs to be separately understood in order to proceed with the analysis of people's transaction activities.

Although not all statements of value appropriate in one context or another are employed to express exchange values, each complete system of the four value measures has been analyzed to examine (1) value units in each as a complete contrast set and (2) rules for generating appropriate value statements in terms of those units. I have also noted for each system the qualifications that may be required of statements specific to exchange value.

Certain aspects of the value measures described in this Appendix assume special importance not only to the determination of 'exchange values' but also to the separate standards of valuation which are fundamental to the organization of goods in 'balanced exchange'. I discuss these aspects in Chapter V. They include: (1) the structural features common to all four systems, (2) relationships between different measures, and (3) attributes unique to the 'livestock' system.

APPENDIX IV

TABLES

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Table 1. Population:

Lubuagan Municipality, January 1, 1966[1]

Barrios	number of inhabitants	number of houses
Lubuagan Poblacion proper	2,293	421
Mabeling	750	191
Dañgoy	720	?
Mabongtot	626	162
Tanglag	739	130
Cagaluan	710	145
Ableg	731	127
Magsilay	372	74
Oriental Lower Guinaang	1,264	233
Upper Guinaang	761	165
Upper Uma[2]	614	132
Lower Uma[2]	706	158
Balatoc	780	185
total	11,066	2,123 + ?

[1] Part of the typed document provided by the Lubuagan Municipal Office. Barrio names are shown in this table as they appear in the original document. By "houses", they refer to house structure, and not necessarily to households.

[2] Two barrios are supposed to correspond to the locally recognized region of Ūma. However, the population in this census for the two barrios comes to 1320, 126 more individuals than my own census of the same date (see Table 2).

Table 2. Population:
Ūma Region

settlements	January 1966		January 1967	
	individuals	households	individuals	households
Magmaggan	120	26	117	27
Doyāgas	237	69	228	73
Baŋtitan	153	37	153	38
Kuluŋ	114	25	105	25
Mannuŋan	237	54	258	56
Aggagama	170	33	166	34
Natāwan	65	15	75	16
Pavaw	98	23	115	28
total	1194	282	1217	297

Table 3. Population:
Immigration to Ūma[1]

regions of birth	1938-1945 male	1938-1945 female	1946-1955 male	1946-1955 female	1956-1965 male	1956-1965 female	1938-1965 male	1938-1965 female
Balātuk	0	0	0	0	2	0	2	0
Gināgan	0	0	0	0	0	1	0	1
Nobwāgan	7	4	2	1	7	5	16	10
Talgaw	1	0	0	0	1(1)[2]	0	2(1)	0
Botwāgan	0	0	1(1)	0	0	0	1(1)	0
total	8	4	3(1)	1	10(1)	6	21(2)	11

[1] Collecting the relevant data in February 1966, I dated each move as accurately as possible
However, certain reference points used in dating were better established in absolute chronology than others. In order to provide comparable time periods for the movement of people in and out of the region for the purpose of this table, I have selected 1938-1945, 1946-1955, and 1956-1965.

A severe typhoid epidemic broke out in 1937 and lasted through the first months of 1938, killing a large number of persons in Ūma as well as in its neighboring regions. The effect was serious in Ūma, and too many deaths due to this epidemic subsequently compelled people to abandon one old settlement, Aglan, in July 1939. The epidemic marks the year 1938 far more clearly than the preceding years, so I chose 1938 over 1936, which would have made the first period more comparable with the other two periods in duration.

By April 1945 the last Japanese soldiers in the area had been killed. Two rice growing seasons after this, a homicide attempt against a woman in Bantitan marked the harvest season in May, 1946. Thus, the first period, 1938-1945, refers to the period from the end of the typhoid epidemic in 1938 to the planting of rice in January 1946, one rice season after the disappearance of the Japanese and the beginning of the rice growing season during which the woman was injured.

The second period starts from that rice planting and lasts until January 1956, the beginning of dry-season rice cultivation in the year marked by the death of Kānaw, the great political leader of Nobwāgan. The third period takes off from that dry-season rice growing, January 1956, and ends with the close of the calendric year of 1965, when I was already in the field.

[2] Numbers in parenthesis represent those individuals known to be dead by the end of December 1966.

Table 4. Population: Emigration from Ūma[1]

Regions of destination	1938 - 1945 marriage m	1938 - 1945 marriage f	1938 - 1945 resettlement indi-viduals	1938 - 1945 resettlement house-holds	1946 - 1955 marriage m	1946 - 1955 marriage f	1946 - 1955 resettlement indi-viduals	1946 - 1955 resettlement house-holds	1956 - 1965 marriage m	1956 - 1965 marriage f	1956 - 1965 resettlement indi-viduals	1956 - 1965 resettlement house-holds	1938 - 1965 marriage m	1938 - 1965 marriage f	1938 - 1965 resettlement indi-viduals	1938 - 1965 resettlement house-holds
Buwāya	0	0	0	0	0	0	0	0	1	0	11	2	1	0	11	2
Asīqa	0	0	0	0	0	1(1)[2]	0	0	0	0	0	0	0	1(1)	0	0
Pinokpok	0	0	0	0	0	3	0	0	1	2(1)	6	1	1	5(1)	6	1
Foswy	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
Manānig	0	0	0	0	0	0	4(1)	1	0	0	6	2	0	0	10(1)	3
Macnaw	0	0	0	0	3	4	16	3	0	1	6	1	3	5	22	4
Tabuk	0	0	3	1	1	2	0	0	1	1	17	3	2	3	20	4
Dalqas	1	3	0	0	1	0	0	0	2	0	0	0	4	3	0	0
Balbalāsan	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0
Balātuk	0	0	0	0	1(1)	0	5(1)	1	0	2	0	0	1(1)	2	5(1)	1
Gināgan	1(1)	0	0	0	0	0	0	0	1	0	0	0	2(1)	0	0	0
Dartālan	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0
Dilūna	0	0	0	0	3	0	0	0	2	0	0	0	5	0	0	0
Macsīnay	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
Mobūgan	1(1)	1	0	0	2(1)	3(1)	0	0	6	3(1)	17	2	9(2)	7(2)	17	2
Tarlag	0	0	0	0	0	0	0	0	1	0	4	1	1	0	4	1
Torlāyan	0	0	0	0	0	0	0	0	1(1)	0	0	0	1(1)	0	0	0
total	3(2)	4	3	1	12(2)	14(2)	25(2)	5	20(1)	9(2)	67	12	35(5)	27(4)	95(2)	18

[1] See footnote 1 on Table 3

[2] See footnote 2 on Table 3

Table 5. Population:
Bantitan Settlement

census data	individuals	households	change in population: individuals: birth	moving in	death	moving out	households: newly established	dissolved or moved out
January 1965	160	39						
			8	0	0	15[1]	1[2]	3[3]
January 1966	153	37						
			5	1[4]	6	0	1[4]	0
January 1967	153	38						
			8	6[5]	2	1[6]	2[7]	1[6]
January 1968	164	39						

1 Three households (11 individuals) moved out to take up residence in other settlements in Ūma. The heads of two households are natives of Bantitan and moved to the native settlements of their wives. The other household head, married to a woman of Bantitan, returned to his native settlement with his wife and child. An old man and two of his unmarried children left for his native settlement in Ūma to live separately from his wife. A man divorced from his barren wife left to live in another settlement in Ūma.

2 A Bantitan man and a Bantitan woman married and established their own household.

3 See note 1 above.

4 One woman moved in to marry a man in Bantitan. Subsequently they established a new household.

5 A native of Bantitan returned with his wife and child and set up a household near his mother's. An aged childless woman moved in and established a household of her own in this settlement where her brother's son and his children reside. A woman married into and became a part of the household of her husband's mother and husband, who is the youngest child. An old man returned to live with his mother due to his temporary separation from his wife.

6 An aged, childless widow left for her native settlement in Nobwāgan after her husband's death.

7 See note 5 above.

Tables 6 ~ 9: Bantitan Population

In these tables, "age" refers to the attained number of years as of June 1, 1967.

Age determination is based upon the recorded or estimated time of birth. My own records include the birth dates of those infants in the age group 0~2 since I began keeping records after February 1, 1965. To the best of my knowledge, the birth years of all but one person in the age group 3~19 are accurate because a proportionately large number of known cases permitted numerous cross checkings in the field to establish unknown or uncertain cases through relative dating. I established the month of birth for one half of the persons in this age group on the basis of their seniors' information concerning the kind of rice crop and its growth stage at the time of the birth.

The birth years of those in the age group 20~39 are reasonably certain although I may be missing by a year for several persons. This is due to major fighting between Mabinog in Mobwāgan and Ūma which marks 1929 and to a good number of subsequent events which can be absolutely dated.

Table 6. Population:
Composition of Bantitan Population by Age and Sex,
June 1, 1967

age	male	%	female	%	total	%
0~ 9	29	37.18	25	32.89	54	35.06
10~19	14	17.95	13	17.11	27	17.53
20~29	15	19.23	14	18.42	29	18.83
30~39	12	15.38	8	10.53	20	12.99
40~49	6	7.69	9	11.84	15	9.74
50~59	1	1.28	6	7.89	7	4.55
60+	1	1.28	1	1.32	2	1.30
total	78	99.99	76	100.00	154	100.00

Table 7. Population: Baṇtitan Household Composition by Age and Sex, June 1, 1967

house site number	household head	0~4		5~9		10~14		15~19		20~24		25~29		30~34		35~39		40~44		45~49		50~54		55~59		60~64		65~69		70+		total	
		m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f
Baṇtitan																																	
1.	dakyun	2	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2
2.	kāyu	0	1	0	3	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5
3.	wagason	0	0	0	1	2	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2
4.	qantun	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
5.	qanuy	1	2	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
8.	dannuway	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
9.	qoggas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1
10.	bakakaw	0	1	0	2	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	4
11.	kinnag	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1
12.	sinyaq	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
13.	nusitu	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
14.	sūniq	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
15.	gunnaw	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
16.	tunnay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
17.	qumnas	1	1	1	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
18.	baṇanay	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	1
19.	qabiddaw	1	0	0	2	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3
20.	quway	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
21.	siyun	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	2
22.	duṇqāqas	1	0	2	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1
23.	diniyaw	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
24a.	piṇnut	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	2
24b.	nītu	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
25.	tunnīnu	0	1	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3
26.	pagatpat	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1
27.	sabin	2	0	0	2	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
28.	bosway	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	3	2
30.	kampin	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
31.	sakki	0	1	1	0	1	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	4	3
32.	salaṭqpy	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	3	3
33.	qanīkoq	1	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
34.	qannamida	0	1	1	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3
35.	panyaw	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
qapuṭul																																	
1.	sāwin	1	0	2	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2
2.	kalwad	0	0	1	0	0	0	1	1	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4	2
tunog																																	
1.	dawqin	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
2a.	tuknu	0	0	1	1	1	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	4	3
2b.	noplop	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
3.	tūkis	0	0	1	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
total		13	10	16	15	10	6	4	7	7	5	8	9	7	5	5	3	3	5	3	4	1	3	0	3	1	1	0	1	0	0	78	76

Table 8. Population: Bantitan Household Composition by Folk Maturity-Stage Categories, June 1, 1967

house site number	household head	bālabāla 'baby'	mutnok$_b$ 'young child'	ganak$_c$ 'older child'	bĩbilu$_b$ 'young man'	babalāsan$_b$ 'young woman'	noqoton[1] 'matured person' male	noqoton[1] 'matured person' female	malmalorgag$_b$ 'old man'	bakbakot$_b$ 'old woman'	mankābaw 'aged person'	total
bantitan												
1.	dakyun	0	1	3	0	0	1	1	0	0	0	6
2.	kāyu	0	1	3	1	0	1	1	0	0	0	7
3.	wadison	0	0	2	1	0	1	1	0	0	0	5
4.	[illegible]	0	1	0	0	0	1	1	0	0	0	3
5.	[illegible]	0	2	2	0	0	1	1	0	0	0	6
6.	dandway	0	0	1	2	0	0	0	0	0	0	3
7.	[illegible]	0	0	0	0	0	0	0	0	1	1	2
8.	[illegible]	0	1	2	1	0	1	1	0	0	0	6
9.	[illegible]	0	0	0	1	0	0	0	0	1	0	2
10.	bakākaw	0	1	2	1	0	1	1	0	0	0	1
11.	karang	0	0	0	1	0	0	0	0	0	0	2
12.	singan	0	0	0	0	0	0	1	0	0	0	1
13.	[illegible]	0	0	0	1	1	0	0	0	0	0	2
14.	[illegible]	0	0	1	0	0	1	1	0	0	0	3
15.	[illegible]	0	0	0	0	0	0	1	0	1	0	2
16.	[illegible]	0	0	0	0	0	0	0	0	1	0	1
17.	[illegible]	0	1	3	0	0	1	1	0	0	0	6
18.	[illegible]	0	0	1	1	0	0	0	0	1	0	3
19.	[illegible]	0	1	2	0	0	1	1	0	0	0	5
20.	[illegible]	0	0	0	0	0	0	0	0	1	0	1
21.	[illegible]	0	0	0	0	1	1	0	0	1	0	3
22.	[illegible]	0	1	2	0	0	1	1	0	0	0	5
23.	[illegible]	0	0	0	0	0	0	0	0	0	1	1
24.	[illegible]	0	0	1	0	0	0	0	1	1	0	3
25.	[illegible]	0	1	1	0	0	1	1	0	0	0	4
26.	[illegible]	0	1	2	0	0	1	1	0	0	0	5
27.	[illegible]	0	0	1	0	0	0	0	0	1	0	2
28.	[illegible]	1	1	2	0	0	1	1	0	0	0	6
29.	[illegible]	0	0	1	2	0	0	0	1	1	0	5
30.	[illegible]	0	1	0	0	0	1	1	0	0	0	3
31.	sukki	0	1	2	1	1	0	0	1	1	0	7
32.	[illegible]	0	0	1	1	2	0	0	1	1	0	6
33.	[illegible]	1	1	0	0	0	1	1	0	0	0	4
34.	[illegible]	0	1	1	0.	1	1	1	0	0	0	5
35.	panyaw	0	0	1	1	1	0	0	0	0	0	3
[illegible]												
1.	[illegible]	0	1	3	0	0	1	1	0	0	0	6
2.	kalwad	0	0	1	3	1	0	0	0	1	0	6
[illegible]												
1.	dawpin	0	0	0	0	0	1	1	1	0	0	3
2.	tukma	0	0	3	1	1	0	0	1	1	0	7
2.	[illegible]	0	0	0	0	1	0	0	0	1	0	2
3.	tukis	0	0	2	0	1	0	1	0	0	0	4
total		2	17	44	17	11	19	21	6	15	2	154

[1] The category noqoton includes both men and women. Males and females are shown separately in order to display the sex-composition of an individual household more accurately than this set of local population classifications alone can do.

Table 9. Population:

Composition of Bantitan Population
Under Twenty Years by Age and Sex,
June 1, 1967

age	male	female	total
<1	3	0	3
1	2	3	5
2	4	3	7
3	2	3	5
4	2	2	4
5	3	2	5
6	3	4	7
7	4	3	7
8	2	3	5
9	4	2	6
10	3	1	4
11	1	1	2
12	3	2	5
13	2	1	3
14	1	1	2
15	1	1	2
16	0	3	3
17	2	1	3
18	1	1	2
19	0	1	1
total	43	38	81

Tables 10 ~ 12: Goods Owned by Bantitan Households

"Estate" refers to the set of trans-generational assets which the term kuwa$_2$ denotes in such contexts as the evaluation of a person's material standing in the society and the division of parent's property as inheritance among his children. "Valued estate", in contrast, refers to miplak, that portion of estate whose transaction by 'exchange' (galos$_{b.1}$) constitutes palak$_1$ 'sale of valued estate'.

"Main goods: on Table 11 do not stand for a local grouping of goods. Under the label, I list the settlement totals of all major assets owned by Bantitan residents at the time of household property census: small domesticated animals, tagompan 'tools and utensils', lumber, and agricultural products yielded for November 1966 - December 1967, as well as the estate. These major assets represent almost all nonconsumables owned by Bantitan residents and the majority of consumables regularly produced every year. The regrettable exclusion from the set is 'cash' (pinak).

My project of taking the detailed census of things owned by each household in Bantitan began in December 1966, following repeated pilot studies through

that year, and took seven months to complete. The census, from which the tables draw their data on nonconsumables other than livestock, examined for each household the kinds and amounts of practically everything owned by the household, the time, the place and the form in which it was acquired, and the assessment of its value, among others; and it turned out to require in average three to four days to cover the household, much longer than I had anticipated on the basis of earlier pilot studies with selected households. Thus, I was unable to peg the entire data to one point in time. Several months lapsed between completing the records of the first few households and the investigation of the last few households.

To facilitate the assessment of the total magnitudes of all major goods available on the settlement at a given point in time, I reexamined in the first week of July 1967 title to all estate. Data on estate in the tables represent title holding as of that week, except for 'water buffalo and/or cow' (nuwan$_b$). All livestock data in the tables are based on the livestock census in October 1967. Data on 'tools and utensils' (tagompan) and 'lumber' (tanikāyu) remain as they were collected from individual households over the seven month period.

Each object was assessed for its 'customary value' (potog), if estate, or its 'sale value'

(ŋīna$_b$) prevailing at the time of recording, if other goods. I have converted the values of individual goods, assessed in terms of various systems of value measure, into the value measure of the 'bundled rice' (pāgoy) system (see pp. 696-704 for "Unitary Value Scale Used" in this study, and 742-743 for the 'bundled rice' (pāgoy) system of value measure).

A dash formed with two hyphens in the tables indicates the irrelevance of the categories specified by the two headings for a given column. In contrast, the zero value shown as "0t" indicates the absence of goods while their category is relevant.

Table 10. Goods Owned by Baŋtitan Households: Estate (values in bundled rice, by household)

house site number	household head	godon 'heirloom' value	baloy 'house' value	payaw$_a$ 'rice-field' value	gālaŋ 'granary' value	pīta 'private land' value	nuwan$_b$ 'water buffalo and/or cow' value	total value
baŋtitan								
1.	dakyun	26y4d0t	16y0d0t	124y5d0t	4y0d0t	4y6d0t	0t	175y5d0t
2.	kāyu	27y8d0t	44y0d0t	194y0d0t	12y0d0t	21y0d0t	51y4d0t	350y2d0t
3.	wagāson	4y4d0t	16y0d0t	40y6d0t	1y4d0t	6y4d0t	2y0d0t	70y8d0t
4.	qantun	10y7d0t	16y0d0t	130y0d0t	10y0d0t	9y0d0t	5y5d0t	181y2d0t
5.	qānuy	2y3d0t	16y0d0t	47y5d0t	6y0d0t	4y6d0t	0t	76y4d0t
8.	dannuway	2d0t	1y2d0t	25y0d0t	0t	6y2d0t	0t	32y6d0t
9.	qoggas	0t	3y0d0t	0t	0t	0t	0t	3y0d0t
10.	bakākaw	9y4d0t	6y0d0t	100y0d0t	2y0d0t	3y6d0t	7y5d0t	128y5d0t
11.	kinnag	1y6d0t	3d0t	20y8d0t	0t	3y8d0t	12y5d0t	39y0d0t
12.	sinyaŋ	25y0d0t	24y0d0t	47y5d0t	10y0d0t	2y6d0t	0t	109y1d0t
13.	nusītu	11y0d0t	6y0d0t	64y0d0t	2y0d0t	2y5d0t	16y5d0t	102y0d0t
14.	sūmiŋ	0t	1y2d0t	50y5d0t	5y0d0t	5y2d0t	7y5d0t	69y4d0t
15.	gunnaw	2y2d0t	2y0d0t	44y0d0t	8d0t	5y0d0t	0t	54y0d0t
16.	tunnay	0t	4d0t	45y0d0t	0t	0t	0t	45y4d0t
17.	qumnas	4y0d0t	16y0d0t	58y5d0t	1y0d0t	3y0d0t	0t	82y5d0t
18.	baŋanay	0t	6d0t	0t	0t	1y6d0t	0t	2y2d0t
19.	qabiddaw	0t	8d0t	116y8d0t	3y0d0t	14y2d0t	12y0d0t	146y8d0t
20.	quway	0t	6d0t	6y5d0t	0t	0t	0t	7y1d0t
21.	siyun	0t	4y0d0t	23y8d0t	0t	2y5d0t	0t	30y3d0t
22.	duŋgāqas	2y0d0t	4y0d0t	114y9d0t	2y0d0t	5y2d0t	0t	128y1d0t
23.	dinayaw	0t	3d0t	11y7d0t	0t	6y4d0t	0t	18y4d0t
24a.	piŋnut	1y4d0t	0t[1]	50y0d0t	8d0t	12y8d0t	0t	65y0d0t
24b.	nītu	2y4d0t	24y0d0t	47y0d0t	1d0t	15y2d0t	0t	88y7d0t
25.	tunnīnu	93y6d0t	44y0d0t	130y0d0t	6y0d0t	16y6d0t	39y0d0t	329y2d0t
26.	pagatpat	37y6d0t	26y2d0t	22y8d0t	12y0d0t	24y0d0t	0t	122y6d0t
27.	sabin	0t	8d0t	85y0d0t	0t	0t	5y5d0t	91y3d0t
28.	bosway	5d0t	1y4d0t	24y0d0t	15y0d0t	3d0t	0t	41y2d0t
30.	kampin	1y0d0t	1y4d0t	34y0d0t	5y4d0t	13y0d0t	8y0d0t	62y8d0t
31.	sakki	0t	8d0t	38y6d0t	0t	2y8d0t	0t	42y2d0t
32.	salaŋqoy	4d0t	8d0t	0t	0t	8y2d0t	0t	9y4d0t
33.	qanīkog	0t	2y0d0t	25y0d0t	4y0d0t	5y6d0t	5y5d0t	42y1d0t
34.	qannamida	0t	2d0t	67y3d0t	8d0t	3y0d0t	0t	71y3d0t
35.	panyaw	0t	1y4d0t	70y3d0t	2y0d0t	1y6d0t	0t	75y3d0t
qapuŋul								
1.	sāwin	6y2d0t	4d0t	82y2d0t	4y0d0t	4y4d0t	0t	97y2d0t
2.	kalwad	0t	8d0t	56y4d0t	1y0d0t	1y2d0t	0t	59y4d0t
tumog								
1.	dawqin	10y0d0t	24y0d0t	90y0d0t	2y0d0t	5y8d0t	7y5d0t	139y3d0t
2a.	tukmu	0t	5d0t	28y0d0t	6d0t	7y2d0t	0t	36y3d0t
2b.	noplop	0t	1d0t	1y8d0t	0t	0t	0t	1y9d0t
3.	tūkis	0t	3d0t	34y0d0t	8d0t	2y4d0t	0t	37y5d0t
settlement total		280y1d0t	307y5d0t	2152y0d0t	113y7d0t	231y5d0t	180y4d0t	3265y2d0t

[1] Residing in the house of their daughter and her husband (see 24b, nītu)

Table 11. Goods Owned by Bantitan Households: Major Goods and Estate (settlement totals)

Estate	Main Goods: value in bundled rice	Main Goods: %	Estate: value in bundled rice	Estate: %
godon 'heirloom'	280y1d0t	6.76	280y1d0t	8.58
baloy 'house'	307y5d0t	7.42	307y5d0t	9.42
payaw$_a$ 'rice-field'	2152y0d0t	51.92	2152y0d0t	65.91
gālaŋ 'granary'	113y7d0t	2.74	113y7d0t	3.48
pīta 'private land'	231y5d0t	5.59	231y5d0t	7.09
nuwaŋ$_b$ 'water buffalo and/or cow'	180y4d0t	4.35	180y4d0t	5.52
total	3265y2d0t		3265y2d0t	
Major Agricultural Products, 1966-1967				
pāgoy 'rice'	438y7d6t	10.59	--	
kapi 'coffee'	41y3d4t	1.00	--	
bayas$_2$ 'local sugarcane wine'	7y8d0t	0.19	--	
bagīnas 'bush wax bean'	44y7d8t	1.08	--	
tibāku 'tobacco'	13y2d0t	0.32	--	
total	545y8d8t		--	
Other Goods				
gāyam 'livestock'	65y9d1t[1]	1.59	--	
tagompan 'tools and utensils'	242y8d9t	5.86	--	
tanikāyu 'lumber'	25y0d0t	0.60	--	
total	333y8d0t		--	
Grand Total	4144y8d8t	100.01	3265y2d0t	100.00
(% of total major goods)	(100.00)		(78.78)	

[1] Excluding nuwaŋ$_b$ 'water buffalo and/or cow', which is listed under "Estate".

Table 12. Goods Owned by Baŋtitan Households: Magnitudes of Valued Estate (settlement totals)

	Estate			Valued Estate			
	number of items	value in bundled rice	%	number of items	value in bundled rice	%	% of valued estate
godon 'heirloom'		280y1d0t	8.58		227y0d0t	8.31	(81.04)
gūsi 'heirloom ironware jar'	4	48y0d0t	17.14	3	47y0d0t	20.70	(97.92)
gaŋsa 'gong'	4	43y2d0t	15.42	3	43y0d0t	18.94	(99.54)
balāwan 'gold'	6	36y6d0t	13.07	4	34y0d0t	14.98	(92.90)
boŋal 'beads'	15+[1]	117y8d0t	42.06	9	103y0d0t	45.37	(87.44)
panay 'ceramic vessel'	119	33y5d0t	11.96	0	0t		(0)
maltaba 'cast iron vat'	1	1y0d0t	0.36	0	0t		(0)
total		280y1d0t	100.01		227y0d0t	99.99	
baloy 'house'	38	307y5d0t	9.42	13	278y2d0t	10.19	(90.47)
payaw$_a$ 'rice-field'	130	2152y0d0t	65.91	102	2078y4d0t	76.10	(96.58)
gālaŋ 'granary'	31	113y7d0t	3.48	10	76y0d0t	2.78	(66.84)
pīta 'private land'		231y5d0t	7.09		71y4d0t	2.61	(30.84)
talba 'private hillside lot'	41[2]	80y6d0t	34.82	4	29y0d0t	40.62	(35.98)
palag 'grazing ground'	15	60y0d0t	25.92	3	26y0d0t	36.41	(43.33)
sāçad 'leveled structure site'	52[3]	85y1d0t	36.76	3	16y4d0t	22.97	(19.27)
pispan 'fish pond'	9	5y8d0t	2.51	0	0t	0	(0)
total		231y5d0t	100.01		71y4d0t	100.00	
nuwaŋ$_b$ 'water buffalo and/or cow'	44	180y4d0t	5.52	0		0	(0)
Grand Total		3265y2d0t	100.00		2731y0d0t	99.99	(83.64)

[1] The number given refers to those boŋal 'beads' formed in conventional patterns and wearable as ornaments. The plus sign indicates those not complete in the form of an ornament.

[2] Although counting the number of talba 'private hillside lots' and palag 'grazing grounds' is not typical in the natural contexts, the number may be stated, if relevant, by counting as one a contiguous lot at the disposal of a single title holding body.

[3] 34 house sites and 18 granary sites.

Tables 13 ~ 15: Title Acquisition

These tables on title acquisition display various ways in which current owners (as of the dates indicated) have acquired title to those kinds of goods which constitute major assets in the society. Proportionate amounts of goods in each category, acquired in different ways, indicate one aspect of the operational significance of those different forms of title acquisition.

Chapter IV contains discussions on different forms in which the Ūma acquire title to goods. Typological headings under the "forms of acquisition" on the tables are restricted to two major divisions, title creation and title transfer. The volume and frequency of transactions in different forms within a given span of time are indicated for certain goods in Tables 60-67.

Table 13. Title Acquisition: Estate Owned by Baŋtitan Households

(values in bundled rice, and numbers of items), as of July 1967

forms of acquisition	godon 'heirloom'	baloy 'house'		payaw$_a$ 'rice-field'		gālan 'granary'		pĪta 'private land'	nuwan$_b$ 'water buffalo and/or cow'		total	%
	value	value	number	value	number	value	number	value	value	number	value	
NT: title creation[2]	--[3]	43y1d0t	(14)	51y3d0t	(8)	3y4d0t	(3)	5y6d0t	52y9d0t	(19)[1]	156y3d0t	4.[illegible]
ŃT: title transfer												
naksun 'lineal inheritance'	255y7d0t	124y6d0t	(9)	1607y0d0t	(82)	83y9d0t	(25)	188y1d0t	33y0d0t	(6)	2292y3d0t	70.[illegible]
binasig 'lateral inheritance'	0t[4]	0t		54y0d0t	(4)	0t		0t	0t		54y0d0t	1.[illegible]
sukat 'reparation'	0t	--		0t		--		0t	16y5d0t	(3)	16y5d0t	0.[illegible]
gūtan$_{b.1}$ 'debt substitution'												
gūtan$_{b.2}$ 'debt substitution in equivalent value'	0t	--		13y0d0t	(2)	--		--	12y5d0t	(3)	25y5d0t	0.[illegible]
saldı$_b$ 'security collection for nonpayment of currency loan'	0t	--		7y2d0t	(1)	--		0t	0t		7y2d0t	0.[illegible]
galos$_{b.1}$ 'exchange'.												
pĪna$_{a.1}$ 'intercategory exchange'												
palak$_{a.1}$ 'sale of valued capital goods'												
silurgay 'specified sale of valued capital goods'	0t	0t		45y0d0t	(1)	0t		0t	--		45y0d0t	1.[illegible]
palak$_{a.2}$ 'unspecified sale of valued capital goods'	19y0d0t	124y0d0t	(5)	337y0d0t	(22)	25y0d0t	(2)	16y0d0t	31y0d0t	(7)	552y0d0t	16.[illegible]
pĪna$_{a.2}$ 'unspecified inter-category exchange'	5y4d0t	15y8d0t	(10)	37y5d0t	(10)	1y4d0t	(1)	21y8d0t	21y0d0t	(5)	102y9d0t	3.[illegible]
galos$_{b.2}$ 'intracategory exchange'												
sarsak 'one-for-many livestock exchange'	--	--		--		--		--	5y5d0t	(1)	5y5d0t	0.[illegible]
bagat 'distant trade'	0t	--		--		--		--	8y0d0t	(1)	8y0d0t	0.[illegible]
Total	280y1d0t	307y5d0t	(38)	2152y0d0t	(130)	113y7d0t	(31)	231y5d0t	180y4d0t	(44)	3265y2d0t	100.0

[1] These include the offspring of inherited animals as well as those acquired other than by inheritance, which the Ūma distinguish in certain contexts. Five of the 19 heads, whose total value is estimated as 14y0d0t are the offspring of inherited animals.

[2] No single named form applies to all kinds of goods shown on the table.

[3] A dash indicates the inapplicability of the given form of title acquisition to a particular category of goods.

[4] Zero value indicates the absence of goods transferred in a given form to current title holders at the time of this survey.

Table 14. Title Acquisition: Livestock Owned by Bantitan Households

(values in bundled rice, numbers of animals), as of October 1967

forms of acquisition	nuwan$_{a.1}$ 'water buffalo'	bāka$_1$ 'cow'	balok$_{a.1}$ 'pig'	qāsu$_{a.1}$ 'dog'	manuk$_{a.1}$ 'chicken'	kabāyu$_1$ 'horse'	kūsa$_1$ 'cat'	kalpāti$_1$ 'pigeon'	kāmit$_1$ 'duck'	gansu$_1$ 'goose'	total	
	value No.	value No.	value No.	value No.	value No.	value No.	value No.	value No.	value No.	value No.	value	%
NT: title creation												
palaka 'raised'[1]	42y5d0t(14)	10y4d0t(5)	12y9d0t(21)	8d0t(4)	6y2d9t(229)	6y5d0t(3)	0t(0)	2d4t(6)	2d0t(5)	2d4t(2)	80y0d7t	32.5
NT: title transfer												
pakaun 'lineal inheritance'	33y0d0t(6)	0t(0)	3y9d0t(3)	0t(0)	2d4t(4)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	37y1d4t	15.0
bāwa 'share of jointly owned goods'	0t(0)	0t(0)	4y4d0t(16)	2d0t(1)	3d5t(30)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	4y9d5t	2.0
sikat 'reparation'	16y5d0t(3)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	16y5d0t	6.7
pūtat$_{b.1}$ 'debt substitution'												
pūtat$_{b.2}$ 'debt substitution in equivalent value'	12y5d0t(3)	0t(0)	2d0t(1)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	12y7d0t	5.1
salda$_b$ 'security collection for nonpayment of currency loan'	0t(0)	0t(0)	1y1d0t(1)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	1y1d0t	0.4
palos$_{b.1}$ 'exchange'												
lina$_{a.1}$ 'intercategory exchange'												
palak$_{a.1}$ 'sale of valued capital goods'	11y0d0t(2)	20y0d0t(5)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	31y0d0t	12.5
sanim 'sugarcane wine exchange'	0t(0)	0t(0)	1y3d0t(2)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	1y3d0t	0.5
pakaun 'rice purchase'	0t(0)	0t(0)	4y7d0t(2)	4d0t(2)	8d3t(14)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	5y9d3t	2.4
lina$_{a.2}$ 'unspecified intercategory exchange'	21y0d0t(4)	0t(0)	5y8d0t(3)	5d2t(3)	1y3d2t(22)	0t(0)	0t(0)	0t(0)	3d6t(3)	0t(0)	29y0d0t	11.7
palos$_{b.2}$ 'intracategory exchange'												
sansan 'one-for-many livestock exchange'	5y5d0t(1)	0t(0)	2d0t(1)	2d6t(2)	1d6t(3)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	6y1d2t	2.4
bantit 'distance trade'	8y0d0t(1)	0t(0)	0t(0)	0t(0)	6t(1)	4y5d0t(1)	0t(0)	2d4t(6)	0t(0)	0t(0)	12y8d0t	5.2
pakbu$_{a.1}$ 'earning for labor'												
pakbu$_{a.2}$ 'non-wage earning for labor'	0t(0)	0t(0)	2y5d0t(2)	2d0t(1)	4d8t(8)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	3y1d8t	1.2
bantin 'wage earning for labor'	0t(0)	0t(0)	2y8d0t(2)	0t(0)	4d8t(8)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	3y2d8t	1.3
kāwa$_1$ 'gift'												
ulip 'mortuary gift'	0t(0)	0t(0)	1y1d0t(1)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	1y1d0t	0.4
sūgul 'high value sale gift'	0t(0)	0t(0)	0t(0)	0t(0)	6t(1)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	6t	0.0
sinlas 'found'	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	8t(2)	0t(0)	0t(0)	0t(0)	8t	0.0
Total	150y0d0t(34)	30y4d0t(10)	40y9d0t(55)	2y3d8t(13)	10y2d7t(320)	11y0d0t(4)	8t(2)	4d8t(12)	5d6t(8)	2d4t(2)	246y3d1t	100.0

[1] These include the offspring both of inherited livestock and of livestock acquired other than by inheritance.

Table 15. Title Acquisition:
Rice Fields (dapat 13~27), as of 1967

Explanatory notes to table:-

1. Dapat refers to a series of adjacent inundated rice fields often sharing the same water sources and/or drainage systems and being distinguished by a unique name. The size of a dapat can vary from a few to several dozen fields. To facilitate data recording, I assigned a unique serial number to the 76 dapat to the south of the Pasil River. I refer to the serial numbers as dapat numbers in this study. A separate serial number identifies individual fields within each dapat.

The detailed surveys of field history, title transfer, relations between title holders of a given field, yields, valuation, and the like cover one continuous stretch of fifteen dapat, Nos. 13-27, close to the settlement of my residence. Map 8 indicates the location of these dapat. The number of individual fields in the fifteen dapat totals 254.

This table summarizes the means by which the current owners have acquired title to each of the 254 fields. When title transfer follows the local ideal of 'inheritance' (naksun), one individual holds title to a given field from the time he establishes a new household at marriage until his child in turn is married and inherits the title, usually a period of between 20 and 40 years. A childless individual may hold title to an inherited field for life, hence maximally about 50 years. If

transferred by other means than inheritance, the span of time for which a given individual holds title to a field is shortened. Two of the total 254 fields were newly constructed by their current owners, one in 1965 and the other in 1953. Of the 252 fields transferred, a majority, 145 fields, or 57.5 %, were transferred between 1957 and 1966; while in the 20 years between 1947 and 1966 213 fields, or 84.5 %, were transferred. Only 12 fields were acquired by their current owners as early as the 1930's and none before 1930.

2. Although I conducted the surveys over almost two years, 1966-68, title holding as of the harvest of the dry season crop in May and June of 1967 is used for this table and referred to as "current".

3. Percentage of total number of fields in dapat 13-27.

4. For "expected yields" contrasted with "1966-67 yields", see note 1 to Table 25:- Rice-Fields: Yields and Productivity per Unit Area.

5. Percentage of total expected yields from all fields.

6. Average annual yield per field in gōyak variety indicates the relative productivity of the fields acquired by different means. Yield serves as the primary determinant of the 'customary value' (potoq) of a field, which, in turn, is one important factor taken into consideration by the Ūma when acquiring or disposing

of a rice field.

7. Percentage of total 1966-67 yields of all fields.

Table 15. Title Acquisition: Rice-Fields (dapat 13 ~ 27)[1], as of 1967[2]

forms of acquisition by current owner	number of fields	%[3]	expected annual yield[4] total kg	%[5]	average kg	per field bundles[6]	1966-1967 yield[4] total kg	%[7]	average kg	per field bundles
NT: title creation										
boka 'new field'	2	0.79	131.25	0.28	65.63	8d8t	126.00	0.28	65.63	8d8t
NT: title transfer										
nakaun 'lineal inheritance'	135	53.15	26,111.25	55.68	193.42	2y5d8t	26,271.00	55.39	194.60	2y5d9t
binasig 'lateral inheritance'	10	3.94	1,876.50	4.00	187.65	2y5d0t	1,817.25	3.83	181.73	2y4d2t
būka 'share of jointly owned goods'	1	0.39	30.00	0.06	0	0t	0	0	0	0t
sunu 'compensation for shared rights'	1	0.39	150.00	0.32	150.00	2y0d0t	172.50	0.36	172.50	2y3d0t
gūtar$_{b.1}$ 'debt substitution'										
gūtar$_{b.2}$ 'debt substitution in equivalent value'	3	1.18	408.75	0.87	136.25	1y8d2t	469.50	0.99	156.50	2y1d9t
salda$_{b}$ 'security collection for nonpayment of loan'	3	1.18	172.50	0.37	57.50	7d7t	180.00	0.38	60.00	8d0t
galos$_{b.1}$ 'exchange'										
rīna$_{a.1}$ 'intercategory exchange'										
palak$_{a.1}$ 'sale of valued estate'										
silungay 'specified sale of valued estate'	3	1.18	742.50	1.58	247.50	3y3d0t	697.50	1.47	232.50	3y1d0t
palak$_{a.2}$ 'unspecified sale of valued estate'	62	24.41	14,640.75	31.22	236.14	3y1d5t	15,147.75	31.94	244.32	3y2d6t
rīna$_{a.2}$ 'unspecified intercategory exchange'	30	11.81	1,723.50	3.68	57.45	7d7t	1,633.20	3.44	54.44	7d3t
galos$_{b.2}$ 'intracategory exchange'										
galos$_{b.3}$ 'unspecified intracategory exchange'	3	1.18	847.50	1.81	282.50	3y7d7t	855.00	1.80	285.00	3y8d0t
kodaw$_{1}$ 'gift'										
kodaw$_{2}$ 'unspecified gift'	1	0.39	60.00	0.13	60.00	8d0t	60.00	0.13	60.00	8d0t
Total	254	99.99	46,894.50	100.00			47,429.70	100.00		

Tables 16 ~ 29: Yields and Productivity of Rice Fields

Determination of yields and productivity of rice grown in 'inundated fields' is indispensable to this study for several reasons. First, growing rice in 'inundated fields' is the major occupation of every person in Ūma. The subsistence of individuals and the survival of a community of people depend upon the success of rice cultivation. Second, rice is an indispensable item in 'balanced exchange' as a medium of exchange and as the basis for one of the main systems of measuring value. Third, the analysis of the folk model of 'balanced exchange' has shown that the important place of rice in 'balanced exchange' gives rise to the "incentive" of the farmers toward its optimal productivity. Thus, we must examine the actual productivity which may be argued as the outcome of that incentive.

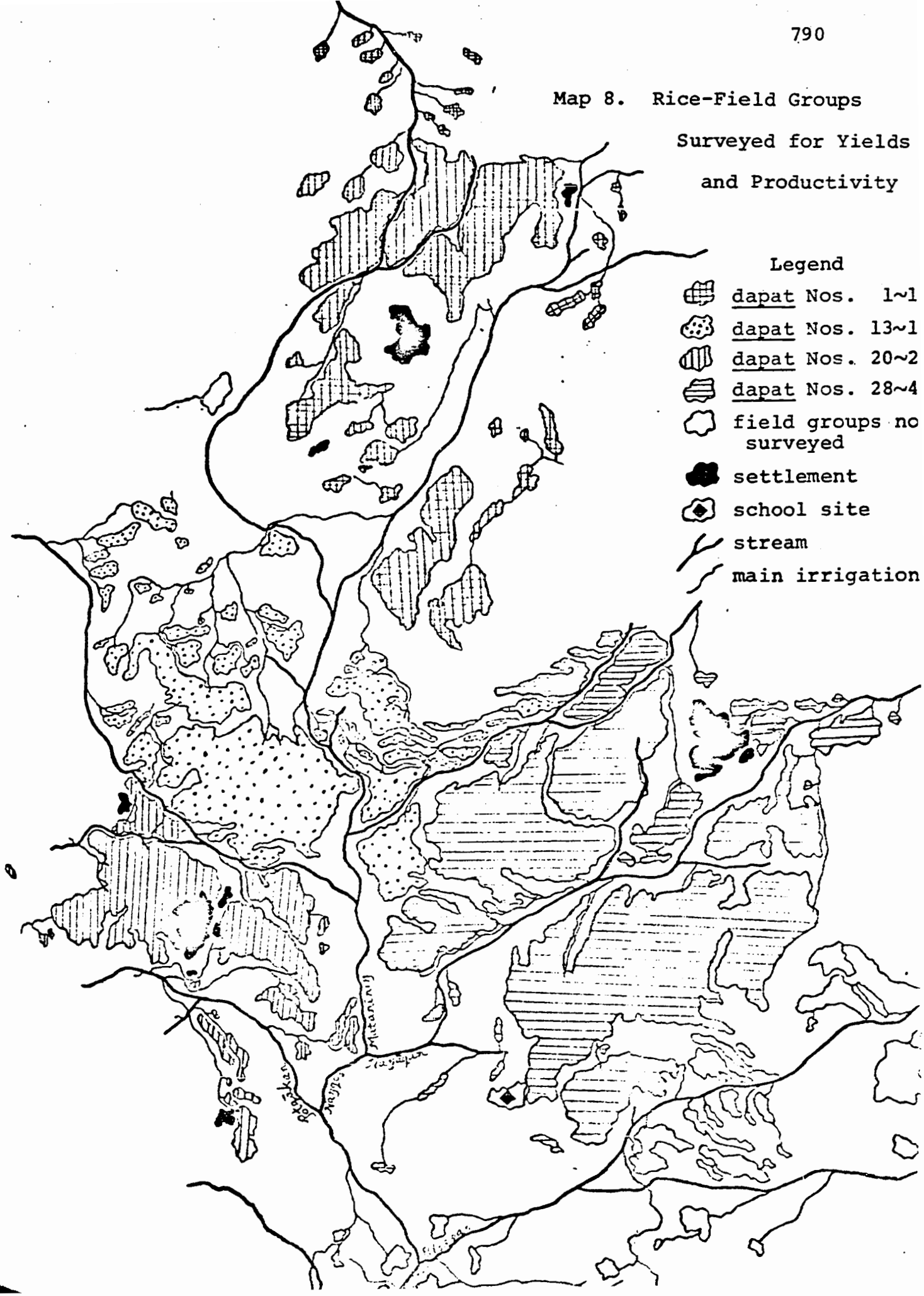
We need quantitative data to answer a number of questions: (a) what is the range of productivity of the individual fields, (b) to what extent do actual yields in any given year differ from typically expected yields, (c) how do the yields in one crop season compare with those in the other of a single annual cycle, (d) what is the level of per unit area productivity, the range of variations among different individual fields and among aggregates of fields at different sites, and (e) what is the level of per unit labor productivity? The tables in this section are intended to provide data to answer these questions.

Fields investigated. The majority of the fields located in 'Upper Ūma' (ŋatun qūma) were studied. They are all along the Matanīniŋ valley system and comprise 40 separate, uniquely named groups of fields, known as dapat. A dapat consists of the adjacently located fields which typically, though not always, depend upon the same water source(s). The 40 'field groups' (dapat) and the main drainage systems relevant to them are shown on Map 8. The total number of individual fields is 614.

Procedures of data collection. The owners of the individual fields (whether or not they themselves were cultivating them at that time) provided the yields of their own fields expected in a typical year. The information included the varieties of rice they usually grow as well as the yields in the conventional bundled rice measure. These yields are referred to as "expected yields" in this study.

Collection of accurate actual yields had to overcome an initial difficulty. Only as late as at the harvest of the dry-season crop in June 1966 was I able to collect yield data on an extensive scale with satisfactory accuracy. My experiences in 1965 revealed the necessity of collecting undistorted yield data right on the spot in the fields when harvest helpers finish their day's work. In order to cover a large number of fields on any one day during the harvest season, I organized a work team with the cooperation of several neighbors, each taking charge of apportioned sections in the valley. Those of us who worked together at the June harvest in 1966

Map 8. Rice-Field Groups Surveyed for Yields and Productivity



learned to improve the procedures for collecting the data. Our coordination achieved in the same task at the November harvest of 1966 and thereafter produced accurate results. Each of us in the team had on hand maps of the pertinent field area, each field identified by its current owner. Yields were defined as the number of the bundles of rice just harvested, and local names for specific varieties of rice were noted.

The yields were later converted into the weight of the grains. The basis for this conversion was the grain-per-bundle rate determined for different varieties of rice in a separate project. The results of this latter project are summarized in Appendix I.

The total area of 'field groups' (dapat) was approximated: first, by estimating areas of field groups on the map prepared from the vertical aerial photograph; second, by a ground survey of three sample field aggregates both to compare the ground and aerial estimates and to estimate non-field areas between individual fields which could not be read from the aerial photograph; and third, by subtracting from the area estimated on the aerial-photograph-based map that portion of the ground survey which was estimated as non-field space.

The area of each of the 16 fields for which there are tabular data was individually measured by a plane table survey.

Tabulated data. For this study I was able to tabulate the actual yield data from two harvests only, the wet-season crop of 1966 and the dry-season crop of 1967.

Since it is not practical to present here the pertinent data for each of the 614 fields involved, I have organized the data in the following way: (1) The 40 'field groups' (dapat) are divided into 4 aggregates as shown on Map 8. Each aggregate roughly corresponds to a series of 'field groups' which depend on closely interrelated drainage systems. The sum and average of the data from the individual fields within each aggregate is given. (2) Individual data for a few selected fields are separately presented. There are two sets of these fields individually treated in the tables in this section: (a) all nine fields that comprise one particular dapat named Kanigāwan (one of the 40 investigated) and (b) seven other fields arbitrarily selected from three other 'field groups' (dapat).

As the result of this organization, there are three separate tables on the same subjects: one table on the 4 aggregates of 'field groups'; another on the fields in Kanigāwan; and the other on the seven other fields from different 'field groups'. The first serves to show the general productivity of most inundated rice fields in 'Upper Ūma', and the average productivity in this major valley system. It also shows variations or constancies in productivity between different parts of the valley. The second and third of the three tables show the wide range of productivity between individual fields, which aggregated data in the first table do not reveal. Using separate tables for Kanigāwan fields and the other individual fields makes obvious the variations

between types of fields within a given dapat 'field group'.

Four sets of the three tables comprise the first 12 tables in this section. The first set (Tables 16, 17, and 18) compares expected yields with actual yields for each of the two successive crop seasons; they also show the sum of the two crops. The variety of rice cultivated is given only in this set of tables. Focusing on the expected yields of the investigated fields, the second set (Tables 19, 20, and 21) compares the wet-season crop with the dry-season crop and estimates area productivity (per hectare as well as per acre). The third set (Tables 22, 23, and 24) contrasts the actual yields of the 1966 wet-season crop with those of the 1967 dry-season crop, and estimates respective area productivity. For a comparison of per unit area productivity in terms of the expected yields with that based on the actual yields, data in the second set (19, 20, 21) may be contrasted with the corresponding data in the third set (22, 23, 24). The fourth set (Tables 25, 26, and 27), the last set of the inter-related 12 tables, examines per unit area productivity not in terms of a one crop season but of two successive crop seasons, which represents annual productivity. The tables in this set also compare the per area productivity of the actual yields with that of the expected yields.

The yields are given, in the first set of tables, in the local bundled rice measure and are also converted into the weight of 'home-pounded rice' (bināyu) which is recovered from the harvested rice through the usual procedure of home

pounding. This is done so that a comparison can be made between the Ūma yield data and those other data in the literature that are given in the weight of "milled rice." To further facilitate comparative analysis, the weight of 'unhusked rice' (pāgoy) is used in the other nine tables to express yields. Rice productivity recorded in the literature is given in terms of the weight of "unhusked rice" more often than in that of "milled rice." Where it is desirable to assess per unit area productivity in terms of the weight of 'pounded rice', the figures from the first three tables may be used in relation to the estimated field areas given in the other tables. The recovery rate by the local method of home pounding is 72% on average (see Appendix I).

The first table in each of the four sets aggregates too large a number of fields together. A gap exists between this table and the other two in each set which show data on individual fields. Table 28 is intended to fill this gap at least in part. It shows for each of 14 'field groups', out of the 40 summarized in the first table, expected annual yields and the actually measured one year yields. The table reveals greater variations in productivity between different 'field groups'.

For the same 15 'field groups', Table 29 examines the productivity of individual rice fields in each of the 'field groups'. The fields in these 'field groups', totaling 254, are divided into three categories: (a) fields with annual yields of 1 qūyon or less of qōyak variety, (b) those with

more than 1 qūyon but less than 2 qūyon, and (c) those with 2 qūyon or more. The first two are, in Ūma farmers' view, bagniw, used in the broad sense of this term. It may be glossed as 'little fields' or 'modest fields'. In the narrower sense of the term, it refers only to the fields in the first category, which is sometimes called by a more specific name, tunninaw. The yield capacity of 1 qūyon (of qōyak variety) per crop season is called sinquyūgan, the lowest limit of "respectable" fields, which make up the third category (producing 2 qūyon or more per year). The proportion of the fields falling into each of these three categories is shown by the number of the fields and its percentage in the total number of fields. The fields considered "respectable" in their yield capacity constitute one half of the total fields surveyed.

The implications as well as interpretations of these tabulated data are examined in a number of different sections in the text. These data bear a special relevance to the argument presented in the last chapter.

Data on per unit labor productivity are excluded from the tabular materials here because the investigation fell short of covering a sufficient number of cases to justify a systematic quantitative treatment. A farmer's frequent visits to his fields to water them during the dry season confused the data because they do not form as discrete a unit of focused activity as do plowing, transplanting, and harvesting. My observations of limited cases are discussed in Chapter III.

Table 16. Yields and Productivity of Rice-Fields:
Wet- and Dry-Season Yields and Annual Totals[1] (dapat 1 ~ 40)

dapat[2] [number of fields][3]	Wet-Season Crops: 1966 actual crop, sheaved rice[4] y d t	Wet-Season Crops: 1966 actual crop, home-pounded kg	Wet-Season Crops: wet-season expected, sheaved rice y d t	Wet-Season Crops: wet-season expected, home-pounded kg	Dry-Season Crops: 1967 actual crop, sheaved rice y d t	Dry-Season Crops: 1967 actual crop, home-pounded kg	Dry-Season Crops: dry-season expected, sheaved rice y d t	Dry-Season Crops: dry-season expected, home-pounded kg	Annual Yields: actual total of wet-1966 and dry-1967 kg	Annual Yields: annual expected kg
1~12 [98]	165 0 0 (k)	12,375.00	147 9 0 (k)	11,092.50	13 9 0 (k) 86 7 6 (n)	14,056.50	13 7 0 (k) 85 7 1 (n)	13,884.00	26,431.50	24,976.50
13~19 [148]	211 8 2 (k)	15,866.50	196 3 0 (k)	14,722.50	37 6 0 (k) 87 4 2 (n)	15,933.45	37 3 0 (k) 89 8 0 (n)	16,267.50	31,819.95	30,990.00
20~27 [106]	101 7 8 (k)	7,633.50	98 0 0 (k)	7,350.00	24 1 5 (k) 41 0 5 (n)	7,976.25	18 5 6 (k) 47 5 5 (n)	8,524.50	15,609.75	15,874.50
28~40 [262]	376 3 7 (k)	28,227.25	390 4 5 (k)	29,283.75	220 1 9 (k) 64 1 2 (n)	26,132.25	222 4 8 (k) 83 6 6 (n)	29,235.00	54,359.50	58,518.75
total for 1~40 [614]	854 9 7 (k)	64,122.25	832 6 5 (k)	62,448.75	295 8 4 (k) 279 3 5 (n)	64,098.45	292 0 4 (k) 306 7 2 (n)	67,911.00	128,220.70	130,359.75

[1] Yields are presented in conventional measures of sheaved rice, as well as by weight of rice recovered after home-pounding. The table gives the expected yield and an actual yield (1966) for a wet-season crop, and the expected yield and an actual yield (1967) for a dry-season crop. The total expected annual yield and the total actual yield for the 1966-67 wet-dry season are given only by weight of rice recovered after home-pounding (the last column).

[2] The dapat 'rice-field groups' surveyed are designated by identification numbers which were assigned to distinguish dapat bearing the same name (see Map 9).

[3] The total number of individual rice-fields within the set of surveyed 'rice-field groups'.

[4] Three units of conventional sheaved rice measure, qūyun, dālan, and qītiŋ, are employed to present the quantity of harvested rice (see Appendix I:- Ūma Measures of Rice: 1a. units for measuring sheaved rice). These units are abbreviated in this table as y, d, t, respectively. Thus, the second entry in this column, "211 8 2" appearing below the unit indication "y d t," will be read as "211 qūyun, 8 dālan, 2 qītiŋ." Rice-grain quantity per bundle significantly differs between the two most general varieties of rice: qōyak and qūnoy. The letters (k) for qōyak and (n) for qūnoy appearing after the yield value indicates which variety was harvested.

Table 17. Yields and Productivity of Rice Fields:

Wet- and Dry-Season Yields and Annual Totals[1] (Kanigāwan)

field number[2] and owner's name	Wet-Season Crops: 1966 actual crop, sheaved rice[3]	Wet-Season Crops: 1966 actual crop, home-pounded	Wet-Season Crops: wet-season expected, sheaved rice	Wet-Season Crops: wet-season expected, home-pounded	Dry-Season Crops: 1967 actual crop, sheaved rice	Dry-Season Crops: 1967 actual crop, home-pounded	Dry-Season Crops: dry-season expected, sheaved rice	Dry-Season Crops: dry-season expected, home-pounded	Annual Yields: actual total of wet-1966 and dry-1967	Annual Yields: annual expected
	y d t	kg	y d t	kg	y d t	kg	y d t	kg	kg	kg
1 bakunnu	5 0 0 (k)	375.0	5 0 0 (k)	375.0	2 0 0 (n)	300.0	3 0 0 (n)	450.0	675.0	825.0
2 qupin	4 0 0 (k)	300.0	6 0 0 (k)	450.0	2 3 0 (n)	345.0	2 8 0 (n)	420.0	645.0	870.0
3 qanunsa	4 0 0 (k)	300.0	4 0 0 (k)	300.0	1 3 0 (n)	195.0	2 0 0 (n)	300.0	495.0	600.0
4 qanunsa	6 0 0 (k)	450.0	6 0 0 (k)	450.0	2 2 0 (n)	330.0	4 0 0 (n)	600.0	780.0	1,050.0
5 kunsiŋ	1 2 0 (k)	90.0	1 2 0 (k)	90.0	5 2 (n)	78.0	6 0 (n)	90.0	168.0	180.0
6 muninyu	3 4 0 (k)	255.0	3 2 0 (k)	240.0	1 6 0 (n)	240.0	1 4 0 (n)	210.0	495.0	450.0
7 bumaltaw	2 0 0 (k)	150.0	2 0 0 (k)	150.0	8 0 (n)	120.0	8 0 (n)	120.0	270.0	270.0
8 bumaltaw	3 0 0 (k)	225.0	2 9 0 (k)	217.5	2 4 0 (k)	180.0	2 0 0 (k)	150.0	405.0	367.5
9 kodyam	1 6 0 (k)	120.0	1 5 0 (k)	112.5	5 0 (n)	75.0	7 0 (n)	105.0	195.0	217.5
total	30 2 0 (k)	2265.0	31 8 0 (k)	2385.0	11 2 2 (n) 2 4 0 (k)	1,863.0	15 3 0 (n) 2 0 0 (k)	2,445.0	4,128.0	4,830.0

[1] See note 1 on Table 16.

[2] A field number refers to a unique number assigned to each of the individual rice-fields located in the dapat 'rice-field group' named Kanigāwan. The nine fields listed here make up this dapat.

[3] See note 4 on Table 16.

Table 18. Yields and Productivity of Rice Fields:

Wet- and Dry-Season Yields and Annual Totals[1] (selected individual fields)

field number[2] and owner's name	Wet-Season Crops: 1966 actual crop, sheaved rice[3]	Wet-Season Crops: 1966 actual crop, home-pounded	Wet-Season Crops: wet-season expected, sheaved rice	Wet-Season Crops: wet-season expected, home-pounded	Dry-Season Crops: 1967 actual crop, sheaved rice	Dry-Season Crops: 1967 actual crop, home-pounded	Dry-Season Crops: dry-season expected, sheaved rice	Dry-Season Crops: dry-season expected, home-pounded	Annual Yields: actual total of wet-1966 and dry-1967	Annual Yields: annual expected
	y d t	kg	y d t	kg	y d t	kg	y d t	kg	kg	kg
matārad 12 wanāwan	4 0 0 (k)	300.0	4 0 0 (k)	300.0	2 0 0 (n)	300.0	2 0 0 (n)	300.0	600.0	600.0
bawaŋ 1 wanāwan	3 5 0 (k)	262.5	3 0 0 (k)	225.0	1 6 0 (n)	240.0	1 6 0 (n)	240.0	502.5	465.0
bawaŋ 13 qupin	8 0 (k)	60.0	7 0 (k)	52.5	5 0 (n)	75.0	5 3 (n)	79.5	135.0	132.0
bawaŋ 18 pirnut	4 2 0 (k)	315.0	5 0 0 (k)	375.0	2 1 0 (n)	315.0	2 6 0 (n)	390.0	630.0	765.0
bawaŋ 17 mono	5 0 0 (k)	375.0	4 5 0 (k)	337.5	2 5 0 (n)	375.0	2 8 0 (n)	420.0	750.0	757.5
bawaŋ 49 tunnay	2 8 0 (k)	210.0	2 5 0 (k)	187.5	9 0 (n)	135.0	1 2 0 (n)	180.0	345.0	367.5
nuṅūlus 8 turnīnu	5 7 0 (k)	427.5	6 0 0 (k)	450.0	2 8 0 (n)	420.0	3 0 0 (n)	450.0	847.5	900.0
total	26 0 0 (k)	1,950.0	25 7 0 (k)	1,927.5	12 4 0 (n)	1,860.0	13 7 3 (n)	2,059.5	3,810.0	3,987.0

[1] See note 1 on Table 16.

[2] A field number refers to a unique number assigned to each individual rice-field within a given dapat 'rice-field group'. The dapat name is given first, followed by the number of the surveyed field.

[3] See note 4 on Table 16.

Table 19. Yields and Productivity of Rice-Fields:
Expected Seasonal Productivity per Unit Area[1] (dapat 1~40)

dapat[2] [number of fields][3]	field area m^2	wet-season expected yield kg	dry-season expected yield kg	estimated yields per hectare: wet-season expected kg	estimated yields per hectare: dry-season expected kg	estimated yields per acre: wet-season expected kg	estimated yields per acre: dry-season expected kg
1~12 [98]	80,000	15,529.50	19,437.60	1,941.2	2,429.7	784.3	981.5
13~19 [148]	98,000	20,611.50	22,774.50	2,103.2	2,323.9	849.7	938.8
20~27 [106]	49,000	10,290.00	11,934.30	2,100.0	2,435.6	848.4	983.9
28~40 [262]	168,000	40,997.25	40,929.00	2,440.3	2,436.3	985.9	984.2
total for 1~40 [614]	395,000	87,428.25	95,075.40	--	--	--	--
average	---	--	--	2,213.4	2,407.0	894.2	972.4

1 Yields are shown by weight of unhusked grains. In Ūma recovery rate of home-pounded rice is about 70% of unhusked rice (cf. Table 16).

2 The dapat 'rice-field groups' surveyed are designated by their identification numbers (see Map 8).

3 The total number of individual rice-fields within the set of surveyed 'rice-field groups'.

Table 20. Yields and Productivity of Rice-Fields:
Expected Seasonal Productivity per Unit Area[1] (Kanigāwan)

field number[2] and owner's name	field area	wet-season expected yield	dry-season expected yield	estimated yields per hectare		estimated yields per acre	
				wet-season expected	dry-season expected	wet-season expected	dry-season expected
	m^2	kg	kg	kg	kg	kg	kg
1 bakunnu	2,100	525.0	630.0	2,500.0	3,000.1	1,010.0	1,212.0
2 qupin	2,350	630.0	588.0	2,680.9	2,504.9	1,083.0	1,010.8
3 ganunsa	1,250	420.0	420.0	3,360.0	3,360.0	1,357.4	1,357.4
4 ganunsa	2,100	630.0	840.0	3,000.1	3,999.9	1,212.0	1,616.0
5 kunsiŋ	650	126.0	126.0	1,938.4	1,938.4	783.2	783.2
6 muninyu	1,300	336.0	294.0	2,584.7	2,261.6	1,044.1	913.6
7 bumaltaw	800	210.0	168.0	2,625.0	2,100.0	1,060.5	848.4
8 bumaltaw	1,200	303.8	210.0	2,537.5	1,750.0	1,025.2	707.0
9 kodyam	500	157.5	147.0	3,150.0	2,940.0	1,272.6	1,187.8
total	12,250	3,338.3	3,423.0	--	--	--	--
average	--	--	--	2,725.7	2,794.3	1,101.2	1,129.0

[1] Yields are shown by weight of unhusked grains. In Ūma recovery rate of home-pounded rice is about 70% of unhusked rice (cf. Table 17).

[2] A field number refers to a unique number assigned to each of the individual rice-fields located in a dapat 'rice-field group' named Kanigāwan. The nine fields listed here make up this dapat.

Table 21. Yields and Productivity of Rice-Fields:
Expected Seasonal Productivity per Unit Area[1] (selected individual fields)

field number[2] and owner's name	field area m^2	wet-season expected yield kg	dry-season expected yield kg	estimated yields per hectare: wet-season expected kg	estimated yields per hectare: dry-season expected kg	estimated yields per acre: wet-season expected kg	estimated yields per acre: dry-season expected kg
matārad 12 wanāwan	1,836	420.0	420.0	2,287.6	2,287.6	924.1	924.1
bawaŋ 1 wanāwan	1,024	315.0	336.0	3,076.2	3,281.3	1,242.8	1,325.7
bawaŋ 13 qupin	351	73.5	111.3	2,094.0	3,171.0	846.0	1,281.0
bawaŋ 18 pipnut	1,859	525.0	546.0	2,824.1	2,937.1	1,141.0	1,186.6
bawaŋ 17 mono	2,540	472.5	588.0	1,860.2	2,314.9	751.5	935.2
bawaŋ 49 tunnay	1,811	262.5	252.0	1,449.4	1,391.5	585.6	562.1
nusūlus 8 tunninu	1,608	630.0	630.0	3,917.9	3,917.9	1,582.8	1,582.8
total	11,029	2,698.5	2,883.3	--	--	--	--
average	--	--	--	2,446.8	2,614.2	988.5	1,056.2

[1] Yields are shown by weight of unhusked grains. In Ūma recovery rate of home-pounded rice is about 70% of unhusked rice (cf. Table 18).

[2] A field number refers to a unique number assigned to each individual rice-field within a given dapat 'rice-field group'. The dapat name is given first, followed by the number of the surveyed field.

Table 22. Yields and Productivity of Rice-Fields:
Actual Seasonal Productivity per Unit Area[1] (dapat 1~40)

dapat[2] [number of fields][3]	field area m^2	1966 wet-season crop kg	1967 dry-season crop kg	estimated yields per hectare 1966 wet-season kg	estimated yields per hectare 1967 dry-season kg	estimated yields per acre 1966 wet-season kg	estimated yields per acre 1967 dry-season kg
1~12 [98]	80,000	17,325.00	19,679.10	2,165.7	2,459.9	874.9	993.9
13~19 [148]	98,000	22,213.10	22,306.83	2,269.5	2,276.3	916.9	919.5
20~27 [106]	49,000	10,686.90	11,166.75	2,181.1	2,278.9	881.2	920.6
28~40 [262]	168,000	39,518.15	36,585.15	2,325.3	2,177.7	950.3	879.8
total for 1~40 [614]	395,000	89,771.15	89,737.83	--	--	--	--
average	--	--	--	2,272.6	2,271.8	918.1	917.8

1 Actual seasonal productivity for wet-season crop as well as for dry-season crop is based respectively on the 1966 wet-season crop and the 1967 dry-season crop. Yields are given by weight of unhusked grains. See Tables 16 and 19.

2 The dapat 'rice-field groups' surveyed are designated by their identification numbers (see Map 9).

3 The total number of individual rice-fields within the set of surveyed 'rice-field groups'.

Table 23. Yields and Productivity of Rice-Fields: Expected Seasonal Productivity per Unit Area[1] (Kanigāwan)

field number[2] and owner's name	field area m^2	1966 wet-season crop kg	1967 dry-season crop kg	estimated yields per hectare: 1966 wet-season kg	estimated yields per hectare: 1967 dry-season kg	estimated yields per acre: 1966 wet-season kg	estimated yields per acre: 1967 dry-season kg
1 bakunnu	2,100	525.0	420.0	2,500.0	2,000.0	1,010.0	807.9
2 qupin	2,350	420.0	483.0	1,787.2	2,055.3	722.0	830.3
3 qanunsa	1,250	420.0	273.0	3,360.0	2,184.0	1,357.4	882.3
4 qanunsa	2,100	630.0	462.0	3,000.1	2,200.0	1,212.0	888.9
5 kunsiŋ	650	126.0	109.2	1,938.4	1,680.0	783.2	678.7
6 muninyu	800	357.0	336.0	2,746.1	2,584.7	1,109.5	1,044.1
7 bumaltaw	1,300	210.0	168.0	2,625.0	2,100.0	1,060.5	848.4
8 bumaltaw	1,200	315.0	252.0	2,625.0	2,100.0	1,060.5	848.4
9 kodyam	500	168.0	105.0	3,360.0	2,100.0	1,357.4	848.4
total	12,250	3,171.0	2,608.2	--	--	--	--
average	--	--	--	2,588.6	2,129.1	1,045.8	860.2

[1] Actual seasonal productivity for wet-season crop as well as for dry-season crop is based respectively on the 1966 wet-season crop and the 1967 dry-season crop. Yields are given by weight of unhusked grains. See Tables 17 and 20.

[2] A field number refers to a unique number assigned to each of the individual rice-fields located in the dapat 'rice-field group' named Kanigāwan. The nine fields listed here make up this dapat.

Table 24. Yields and Productivity of Rice-Fields:
Actual Seasonal Productivity per Unit Area[1] (selected individual fields).

field number[2] and owner's name	field area m^2	1966 wet-season crop kg	1967 dry-season crop kg	estimated yields per hectare: 1966 wet-season kg	estimated yields per hectare: 1967 dry-season kg	estimated yields per acre: 1966 wet-season kg	estimated yields per acre: 1967 dry-season kg
matārad 12 wanāwan	1,836	420.0	420.0	2,287.6	2,287.6	924.1	924.1
bawaŋ 1 wanāwan	1,024	367.5	336.0	3,588.9	3,281.3	1,449.8	1,325.7
bawaŋ 13 qupin	351	84.0	105.0	2,393.2	2,991.5	966.8	1,208.5
bawaŋ 18 piŋnut	1,859	441.0	441.0	2,372.3	2,372.3	958.4	958.4
bawaŋ 17 mono	2,540	525.0	525.0	2,067.0	2,067.0	835.1	835.1
bawaŋ 49 tunnay	1,811	294.0	189.0	1,623.4	1,043.6	655.9	421.7
nusūlus 8 tunnīnu	1,608	598.5	588.0	3,722.0	3,656.7	1,503.7	1,477.3
total	11,029	2,730.0	2,604.0	--	--	--	--
average	--	--	--	2,475.3	2,361.1	1,000.0	953.8

[1] Actual seasonal productivity for wet-season crop as well as for dry-season crop is based respectively on the 1966 wet-season crop and the 1967 dry-season crop. Yields are given by weight of unhusked grains. See Tables 18 and 21.

[2] A field number refers to a unique number assigned to each individual rice-field within a given dapat 'rice-field group'. The dapat name is given first, followed by the

Table 25. Yields and Productivity of Rice-Fields: Annual Productivity per Unit Area[1] (dapat 1~40)

dapat[2] [number of fields][3]	field area m^2	1966-67 actual yield kg	annual expected yield kg	estimated yields per hectare: 1966-67 yield kg	estimated yields per hectare: annual expected kg	estimated yields per acre: 1966-67 yield kg	estimated yields per acre: annual expected kg
1~12 [98]	80,000	37,004.10	34,967.10	4,625.5	4,370.9	1,868.7	1,765.8
13~19 [148]	98,000	44,547.93	43,386.00	4,545.7	4,427.1	1,836.5	1,788.5
20~27 [106]	49,000	21,853.64	22,224.30	4,460.0	4,535.6	1,801.8	1,832.3
28~40 [262]	168,000	76,103.30	81,926.25	4,530.0	4,876.6	1,830.1	1,970.1
total for 1~40 [612]	395,000	179,508.97	182,503.65	--	--	--	--
average	--	--	--	4,544.5	4,620.3	1,836.0	1,866.6

1 Annual productivity per unit area is estimated on the basis of the sum of actual yields in the 1966 wet season and the 1967 dry season as well as expected annual yields. Yields are presented by weight of unhusked grains. See Tables 16, 19, and 22.

2 The dapat 'rice-field groups' surveyed are designated by their identification numbers (see Map 8).

3 The total number of individual rice-fields within the [illegible]

Table 26. Yields and Productivity of Rice-Fields: Annual Productivity per Unit Area[1] (Kanigāwan)

field number[2] and owner's name	field area m^2	1966-67 actual yield kg	annual expected yield kg	estimated yields per hectare: 1966-67 yield kg	estimated yields per hectare: annual expected kg	estimated yields per acre: 1966-67 yield kg	estimated yields per acre: annual expected kg
1 bakunnu	2,100	945.0	1,155.0	4,500.0	5,500.0	1,818.0	2,221.9
2 gupin	2,350	903.0	1,218.0	3,842.6	5,182.9	1,552.5	2,094.0
3 ganunsa	1,250	693.0	840.0	5,544.0	6,720.0	2,239.7	2,714.9
4 ganunsa	2,100	1,092.0	1,470.0	5,200.0	7,000.0	2,100.8	2,828.0
5 kunsiŋ	650	235.2	252.0	3,618.4	3,876.9	1,461.9	1,566.3
6 muninyu	1,300	693.0	630.0	5,330.8	4,846.1	2,153.6	1,957.9
7 bumaltaw	800	378.0	378.0	4,725.0	4,725.0	1,908.9	1,908.9
8 bumaltaw	1,200	567.0	514.5	4,725.0	4,287.5	1,908.9	1,732.2
9 kodyam	500	273.0	304.5	5,460.0	6,090.0	2,205.8	2,460.4
total	12,250	5,779.2	6,762.0	--	--	--	--
average	--	--	--	4,717.7	5,520.1	1,906.0	2,230.0

[1] Annual productivity per unit area is estimated on the basis of the sum of actual yields in the 1966 wet season and the 1967 dry season as well as expected annual yields. Yields are presented by weight of unhusked grains. See Tables 17, 20, and 23.

[2] A field number refers to a unique number assigned to each of the individual rice-fields located in the dapat 'rice-field group' named Kanigāwan. The nine fields listed here make up this dapat.

Table 27. Yields and Productivity of Rice-Fields: Annual Productivity per Unit Area[1] (selected individual fields)

field number[2] and owner's name	field area m^2	1966-67 actual yield kg	annual expected yield kg	estimated yields per hectare: 1966-67 yield kg	estimated yields per hectare: annual expected kg	estimated yields per acre: 1966-67 yield kg	estimated yields per acre: annual expected kg
matārad 12 wanāwan	1,836	840.0	840.0	4,575.2	4,575.2	1,848.4	1,848.4
bawaŋ 1 wanāwan	1,024	703.5	651.0	6,870.1	6,357.4	2,775.5	2,568.4
bawaŋ 13 gupin	351	189.0	184.8	5,384.7	5,265.0	2,175.3	2,127.0
bawaŋ 18 pignut	1,859	880.0	1,071.0	4,744.5	5,761.1	1,916.7	2,327.5
bawaŋ 17 mono	2,540	1,050.0	1,060.5	4,133.9	4,175.2	1,670.1	1,686.7
bawaŋ 49 tunnay	1,811	483.0	514.5	2,667.0	2,841.0	1,077.4	1,147.7
nusūlus 8 tunnīnu	1,608	1,186.5	1,260.0	7,378.7	7,835.8	2,981.0	3,165.7
total	11,029	5,334.0	5,581.8	--	--	--	--
average	--	--	--	4,836.3	5,061.0	1,953.8	2,044.7

[1] Annual productivity per unit area is estimated on the basis of the sum of actual yields in the 1966 wet season and the 1967 dry season as well as expected annual yields. Yields are presented by weight of unhusked grains. See Tables 18, 21, and 24.

[2] A field number refers to a unique number assigned to each individual rice-field within a given dapat 'rice-field group'. The dapat name is given first, followed by the

Table 28. Yields and Productivity of Rice Fields; Expected and Actual Yearly Yields (*dapat* 13-27)

dapat	number of fields[1]	total expected annual yields[2]	total one-year yields (1966-67)[3]
13. qalāwon	3	607.50	697.50
14. kolay	8	1,755.00	1,845.00
15. matāŋad	21	4,375.50	4,282.50
16. bawaŋ	60	15,011.25	15,165.75
17. nutmon	27	4,173.75	4,545.45
18. qaglan	26	4,527.00	4,728.75
19. simāyon	3	540.00	555.00
20. ponqal	33	5,272.50	5,319.00
21. binulobūlog	10	1,252.50	1,187.25
22. nusūlus	32	5,131.50	5,017.50
23. nitābaŋ	6	699.00	769.50
24. potqākan	4	505.50	490.50
25. qapuŋul	8	1,464.00	1,443.00
26. duyuŋon	9	1,167.00	1,042.50
27. naŋqos	4	382.50	340.50
total	254	46,864.50	47,429.70

[1] The number of individual fields within each *dapat*.

[2] The *dapat* total of expected annual yields of individual fields.

[3] The *dapat* total of the 1966 wet season crop harvests, plus the 1967 dry season crop harvests, of individual fields.

Table 29. Yields and Productivity of Rice Fields:

Productivity Range of Individual Rice-fields

dapat	total number of fields	number of fields with annual yields of 1 gūyon or less[1]		number of fields with annual yields of more than 1 gūyon but less than 2 gūyon		number of fields with annual yields of 2 gūyon or more[2]	
		1966-67 yields	expected yields	1966-67 yields	expected yields	1966-67 yields	expected yields
13. qalāwon	3	0	0	1	1	2	2
14. kolay	8	1	1	0	0	7	7
15. matāṇad	21	4	3	5	5	12	13
16. bawaŋ	60	10	11	11	12	39	37
17. nutnun	27	8	9	7	6	12	12
18. qāglan	26	5	6	5	5	16	15
19. sirāyon	3	1	1	0	0	2	2
20. ponqal	33	11	10	8	8	14	15
21. binulobūlog	10	5	4	2	2	3	4
22. nusūlus	32	18	18	5	4	9	10
23. nitūbaŋ	6	3	2	1	2	2	2
24. potqākan	4	2	2	1	1	1	1
25. qapuṇul	8	2	2	2	1	4	5
26. duyuṇon	9	4	4	2	2	3	3
27. naṇqos	4	2	2	1	1	1	1
total	254	76	75	51	50	127	129
percent of total fields		29.92	29.53	20.08	19.69	50.00	50.79

[1] 1 gūyon of gōyak variety, i.e., 107.00 kg in the unhusked form.
[2] 2 gūyon of gōyak variety, i.e., 214.00 kg in the unhusked form.

Tables 30-34: Baŋtitan Rice

The tables present a gross estimate of the total amount of rice produced, consumed and transacted by households in Baŋtitan for the period of one year. A year constitutes one of the natural units with respect to regular household budgets in Ūma not only because the people regard two successive crops in one year as forming the repetitive minimum unit but also many of the locally relevant phenomena and activities recur with one year as a unit. The most complete cluster of pertinent data that I was able to secure has largely determined my choice of a particular one year period to be focused in this study: December 1966 - November 1967.

In the tables below, the income derived from production comprises the 1966 wet-season crop harvested in November 1966 and the 1967 dry-season crop harvested in May-June 1967. Yields from a given crop typically provide the basic household supply of rice from the time of its harvest to the harvest of the following crop, although yields from two consecutive crops may be noticeably different for some households. About six months from December 1966 to May 1967 form the primary consumption period of the 1966 wet-season crop, and roughly six months from June to November 1967 correspond to that of the 1967 dry-season crop. Thus, data on consumption and transaction presented in the tables below, marked as

"1966-1967", are the records of that one year period following the harvest of the 1966 wet-season crop, namely December 1966 - November 1967. While the following tables primarily focus on the income and expenditure accounts of individual households, Tables 60,61 show different ways in which the rice was transacted in the same period as well as the volumes of rice transacted in each form.

The weight in kg in home-pounded form is employed as the unitary measure unit to express the quantity of rice involved. Units of measure actually used in transaction widely vary: some by bundle measure units and others by capacity measure units. I have converted the amounts recorded in terms of divergent measure units into the kg value by utilizing the typical conversion rates which I established in a separate project (see Appendix I).

Table 30. Bantitan Rice:

Rice Production (by household), 1966-1967

One of the main goals of this particular investigation was to approximate, for individual households as well as for the settlement as a whole, gross income in the form of the subsistence crop yielded directly from 'rice-fields', the locally most important form of capital asset.

Due to the practice of share-cropping, a given household may be drawing rice income through any one or all of the following three methods of management: (1) self-cultivating its own fields, (2) having another cultivate its own fields, and (3) cultivating another's fields. Income to the household from the second method is the owner's 'share' (būwa) in the locally recognized profit-sharing system in which labor and land-ownership cooperate (see discussions on būwa and its concepts in Chapter IV). Income from the third method above is the cultivator's 'share' (būwa). Thus, the assessment of gross income from the management of 'rice-fields' for production requires the examination for each household of the yields of own fields self-cultivated, its 'share' in the yields of own fields cultivated by others, and its 'share' in yields from others' fields cultivated by the household.

Since the table below displays only a portion of the summary of the investigation, the reader's evaluation of the materials presented in the table legitimately calls for a word on the procedures I employed in collecting the source data and processing them. The statement on these procedures will

precede the presentation of the table, which will be followed by discussions. Those relevant data summarized in the table allow, in addition to the gross income assessment, several instructive observations on the quantitative results of the local management of 'rice-fields' for production. I will comment on these in the discussion.

Procedures of data collection

The data presented in the table below refer to a set of two consecutive seasons of rice growing in pond fields in Ūma: wet season from June to November 1966; and dry season from November 1966 to June 1967.

While each of the two crops was still growing, I made the records for each of 39 households in Bantitan of (1) its own fields being self-cultivated, (2) its own fields cultivated by someone else, and (3) another's fields being cultivated by the household. Yields from all these fields were recorded mostly at the fields at the end of each harvesting day. The division of owner's 'share' and cultivator's 'share' was inquired while the harvested rice was being dried, by which time exact division had been already agreed upon in most cases.

The number of rice bundles and the variety names of the harvested rice formed the basis for the later quantifications of yield data in kg in the home-pounded form, which is the closest to the form of husked rice, the form most widely recognized as the basis for productivity comparison. Two

separate average values were used for the qōyak variety and for the qūnoy variety in converting the yield data collected in terms of the local measure units into the quantity in kg (see Appendix I).

As in the case of collecting straight yield data on a large scale (see discussions accompanying Tables 16-29), I made my first attempt in 1965 to collect the set of data for this investigation. The reasons why I did not succeed in this attempt were many, including (1) the lack of my knowledge of the numerous individual fields scattered through the region and the consequent failure on my part to identify actual fields when referred to in verbal inquiries, and (2) the sensitivity occasionally characterizing the actual 'share' divisions, which I had not been prepared to handle with the locally acceptable tact. My data significantly improved, in my opinion, when I again worked on the dry season crop of 1966.

My records on the two crops following that 1966 dry season crop are used here. By the time I collected the data for the wet season crop in 1966, I had been able to predict typical problems in their collection and to handle most of them successfully.

Table

Note:-

Column a shows the number of 'adults' (nalkātan) in each household. Listed under column b is the number of males in each household who can carry out those strenuous physical

activities typically regarded as "man's work".

'Adult' refers to those persons whom the Ūma call nalkātan, who are viewed basically capable of carrying out usual adult activities in the fields as well as in the settlement. Those individuals roughly fall into the age range of 12-59 (see Table 8). The major discrepancy between this folk category and the extra-cultural grouping based upon actual age rests with the classification of those individuals who are in the transition period from the local maturity stage category of $qanak_2$ 'older child' to those of bībilu 'young man' and babalāsaŋ 'young woman' respectively. The performance of individuals in this transition period, age range of 12-14, may or may not meet the local criteria for an 'adult'. People's judgments naturally vary concerning specific individuals in this period inasmuch as those individuals attain the unquestionable status of 'adult' only through gradual progression. I adopted the more or less prevailing opinion, as of June 1967, among those Baŋtitan residents older than the individuals in question and took the count of the number of nalkātan, which I gloss as 'adult'.

Activities entailed in the cultivation of rice in pond fields which the Ūma almost exclusively expect a strong man to undertake include: such preparations of seedbeds and of main fields as 'first plowing with human feet' (dosdos), or 'first plowing with water buffalo' (dalnok), 'soil redistribution' (gaqud) following the first plowing, 'second plowing' (dalopdop), and 'final mud smoothing' (kagawkaw) immediately prior to

Table 30 Baṇtitan Rice: Rice Production (by household), 1966-1967

house site number	household head	number of persons	number of 'adults' (see note, p.) a.	b.	I AN kg	II BN kg	III BW kg	IV CN kg	V CW kg	VI AN + BN kg	VII AN + CN kg	VIII AN + BW + CW kg
baṇtitan												
1.	dakyun	6	2	1	1953.00	0	0	0	0	1953.00	1953.00	1953.00
2.	kāyu	7	2	1	1552.50	1620.00	870.00	0	0	3172.50	1552.50	2422.50
3.	wagāson	5	3	1	636.00	0	0	0	0	636.00	636.00	636.00
4.	qantun	3	2	1	753.00	1260.00	187.50	0	0	2013.00	753.00	940.50
5.	qānuy	6	2	1	730.50	0	0	0	0	730.50	730.50	730.50
8.	dannuway	3	3	2	285.00	0	0	0	0	285.00	285.00	285.00
9.	qoggas	2	1	0	0	0	0	900.00	900.00	0	900.00	900.00
10.	bakākaw	6	3	2	1357.50	97.50	41.25	0	0	1455.00	1357.50	1396.75
11.	kinnag	2	2	1	397.50	0	0	150.00	150.00	397.50	547.50	547.50
12.	sinyat	1	1	0	690.00	0	0	0	0	690.00	690.00	690.00
13.	nusitu	2	2	1	532.50	378.75	186.75	1005.00	517.50	911.25	1537.50	1236.75
14.	sūmin	3	2	1	997.50	0	0	0	0	997.50	997.50	997.50
15.	gunnaw	2	2	0	604.50	0	0	0	0	604.50	604.50	604.50
16.	tunnay	1	1	0	345.00	240.00	120.00	0	0	585.00	345.00	465.00
17.	qumnas	6	2	1	1057.05	0	0	0	0	1057.05	1057.05	1057.05
18.	bananay	3	2	0	0	0	0	201.00	108.75	0	201.00	309.75
19.	qabiddaw	5	2	1	795.00	390.00	210.00	0	0	1185.00	795.00	1005.00
20.	qunay	1	1	0	91.50	0	0	0	0	91.50	91.50	91.50
21.	siyun	3	3	1	438.00	0	0	0	0	438.00	438.00	438.00
22.	duggāgas	5	2	1	1248.00	315.00	127.50	0	0	1563.00	1248.00	1375.50
23.	dineyaw	1	0	0	154.50	0	0	0	0	154.50	154.50	154.50
24a.	pānut	3	2	0	802.50	0	0	0	0	802.50	802.50	802.50
24b.	nitu	4	2	1	759.00	0	0	0	0	759.00	759.00	759.00
25.	tunnīnu	5	2	1	1429.50	840.00	390.00	0	0	2269.50	1429.50	1819.50
26.	pugatpat	2	1	0	257.25	0	0	0	0	257.25	257.25	257.25
27.	sabin	6	2	1	894.00	427.50	270.00	0	0	1321.50	894.00	1164.00
28.	bosway	5	4	0	88.50	0	0	630.00	300.00	88.50	718.50	388.50
30.	kampin	3	2	1	493.50	0	0	289.50	133.50	493.50	783.00	627.00
31.	sakki	7	4	2	516.00	0	0	570.00	285.00	516.00	1086.00	801.00
32.	salaqqoy	6	5	2	0	0	0	907.50	547.50	0	907.50	547.50
33.	qanīkog	4	2	1	405.00	0	0	405.00	202.50	405.00	810.00	607.50
34.	qannamīda	5	3	1	862.50	0	0	0	0	862.50	862.50	862.50
35.	ponyaw	3	2	1	648.75	480.00	202.50	0	0	1128.75	648.75	851.25
qaputul												
1.	sūwin	6	3	1	1267.50	0	0	0	0	1267.50	1267.50	1267.50
2.	kalwad	6	5	3	1056.00	0	0	0	0	1056.00	1056.00	1056.00
turog												
1.	dawqin	3	3	2	1305.00	255.00	0	0	0	1560.00	1305.00	1305.00
2a.	tukmu	7	4	2	555.00	0	0	873.75	450.00	555.00	1428.75	1005.00
2b.	noplop	2	2	0	39.75	0	0	350.25	153.75	39.75	390.00	193.50
3.	tūkis	4	2	0	555.00	0	0	0	0	555.00	555.00	555.00
settlement total		154	69	35	26553.30	6303.75	2605.50	6282.00	3748.50	32857.05	32835.30	32907.30

planting; carrying seedlings from a seedbed to a field to be transplanted; and gathering and carrying harvested rice to a granary site for drying. The men whom the Ūma consider best fit to carry out these activities fall roughly within the age range of 16-45.

Key to capital letters used as column headings:-

a. Each of the first five column headings consists of a combination of two capital letters, one from the set of A, B and C, and the other from the set of N and W. A, B and C refer to three types of fields distinguished by the rights held in them by various Baŋtitan households. N and W refer to the total yield of a given field and a 'share' in the yield respectively.

A = fields owned and cultivated by the household

B = fields owned by the household, but cultivated by non-owners from within or outside Baŋtitan

C = fields cultivated but not owned by the household

N = total yields of the given fields

W = owner's (BW) or cultivator's (CW) 'share' in yields of share-cropped fields (see discussions of būwa 'share in the jointly owned property' in Chapter IV)

b. The seven column headings and their referents are listed below:

AN = total yields of fields owned and cultivated by the household

BN = total yields of fields owned by the household but cultivated by non-owners

BW = owner household's 'share' of BN above

CN = total yields of fields not owned by the cultivator household

CW = cultivator household's 'share' of CN above

AN + BN = total yields of all fields owned by the household

AN + CN = total yields of all fields cultivated by the household

AN + BW + CW = yields of own fields self-cultivated, plus 'share' in yields of own fields cultivated by others, plus 'share' in yields of others' fields cultivated by the household

Discussion

Total yields of fields owned and cultivated by the household (column I:AN). Two households had more than one half their fields cultivated by others while three households, having no fields of their own, drew their income solely from their 'share' as cultivators. Despite these variations across households, more than 80% of the total fields owned by Baŋtitan households were cultivated by owner households themselves. Almost 90% of the total gross income of Baŋtitan households from their own fields, i.e., AN+BW, derived from those fields cultivated by owner households themselves. In other words, the total yields accruing to Baŋtitan households

as owners of share-cropped fields, BW, were only a little over 10% of the total yields accruing to the households from their own fields. The settlement total of the yields of the fields owned and cultivated by Baŋtitan households, AN, comprised as much as about 80% of the total Baŋtitan yields, AN+BW+CW.

Fields share-cropped (see columns II:BN, III:BW, IV:CN, and V:CW). Since we are concerned with the income to Baŋtitan households directly derived from their management of 'rice-fields', the residence of the field title holder is irrelevant when a Baŋtitan household cultivates another's fields and draws its 'share' of the total yields. Similarly, the residence of the cultivator is irrelevant when a Baŋtitan household gives a loan of its field and receives its 'share' of the total yields. When owned by one Baŋtitan household and cultivated by another Baŋtitan household, the yield of the field appears twice in the table, for the first household as BN, the total yield of the field owned by the household but cultivated by a non-owner, and for the second household as CN, the total yield of the field not owned by the cultivator household. The owner's share of the yield appears for the first household as BW, while the cultivator's share appears for the second household as CW. In those cases in which the title holder or the cultivator of a field share-cropped by a Baŋtitan household does not reside in Baŋtitan, the total yield of the field appears either as BN or CN whichever the case may be. Twelve of 22 fields owned by Baŋtitan households

and share-cropped in the 1966 wet season were cultivated by other Bantitan households. Bantitan households, in turn, cultivated 14 fields that were owned by households outside Bantitan. In the 1967 dry season, 13 of the 25 fields which Bantitan non-owner households cultivated were owned by other households within the settlement, and 12 by households outside the settlement.

The settlement total of BN and that of CN do not represent yields of physically separate sets of fields. The contrast between the two totals corresponds simply to that between the total yields of those fields owned by Bantitan households but not cultivated by owners, and those of the fields cultivated by the Bantitan households but not owned by the cultivator households. Stated differently, the settlement total of BN represents the total yields of the rice production in which fields owned by Bantitan households served as land cooperating with labor provided by non-owners. In contrast, the settlement total of CN represents the total yields of the rice production in which labor provided by Bantitan households cooperated with land provided by those other than cultivators. The two totals are strikingly close to each other, i.e., BN total = 6303.75 kg and CN total = 6282.00 kg. This implies that the roughly equal amounts of yields were share-cropped by Bantitan households as owners and as cultivators respectively.

Per unit area productivity of more than one half of these fields owned by Bantitan households but cultivated by

non-owners was found in this survey to be from 3 to 10% lower than when those fields had been previously cultivated by owner households themselves. The total annual yields of those fields when self-cultivated amount to 6548.25 kg, which is about 4% greater than BN total, 6303.75 kg. In contrast, per unit worker productivity appears to be slightly higher when cultivated by non-owners. When a field owner arranged for his distantly located field to be cultivated by another residing closer to the field, a measurable reduction resulted in the amount of time expended on mere travelling to and from the field, especially in the dry season when almost daily watch over water is necessary. In addition, there seems to be a factor of reduced incentive on the part of a non-owner cultivator, who is entitled to only one half of whatever his additional labor input will yield.

Actual owners' and cultivators' 'shares' to the total yields vary in proportion in individual cases as seen in columns III:BW and II:BN, and V:CW and IV:CN, respectively. Taking the settlement totals, however, we find the Baŋtitan owners' 'shares' (BW) comprising 41% of the total yields (BN), and the Baŋtitan cultivators' 'shares' 60% (CW/CN). The proportion of 'shares' to the total yield of a share-cropped field is about 10% more in favor of the cultivator than the 50-50 division which Ūma residents state as the common practice.

The net income of an owner of a share-cropped field is less than the amount of his 'share' since he is usually expected to supply the seeds. Individual practice varies

widely, depending upon a number of factors. One of the factors is the agreed proportion of 'shares', but it must be emphasized that it is only one among others. My own records lack precision, except for those fields for which such clear-cut agreement was made, e.g., that the seeds were supplied all by the owner, all by the cultivator, or in agreed proportions by both. The sharing of seedlings between multiple persons, involving those other than the owner and the cultivator, caused difficulty in keeping an exact account of seeds for 21 of the 44 fields in question. Thus, I am unable to show the average of the actual arrangements made. I can only state that the total amount of seeds supplied by Bantitan owner households to those share-cropped fields was more than 1% but less than 2% of the total yields of the fields. I consider it reasonable to estimate the average net income of a Bantitan owner household from its share-cropped field as being in the range of 38 to 39%.

Total yields of all fields owned by the household (column VI:AN+BN). Figures in the column refer to the total yields of all fields owned by Bantitan households that were cultivated, by owners or non-owners, in the period covered in this survey. The total yields in the 1966 wet season came to 16,437.25 kg, and those in the 1967 dry season 16,429.80 kg, the sum of which appears in the table. I have already suggested that the total yields could be slightly, about 0.7%, higher than these actual yields if all the share-cropped fields had been self-cultivated.

Yield data in this column do represent an aspect of the magnitudes of household property in the form of 'rice-fields'. But they do not constitute a direct index which the people employ to evaluate the relative wealth of individual households. They consider, among other things, the amount of property to which the former members of these households have already received title at marriage, out of what had once constituted the household property holding. Similarly, they consider the number of unmarried children in each household who hold inheritance rights to the property currently held by the household and will receive at their marriage title to a portion of it (see Tables 8 and 68).

Total yields of all fields cultivated by the household (column VII:AN+CN). The total yields of the fields cultivated by individual households necessarily relate to the total amounts of labor supplied, directly or indirectly, by those households. However, per unit labor productivity varies for individual households due to such factors as the distance to their fields, spatial distribution of the fields cultivated by a single household, and per unit area productivity of individual fields. Thus, the total yields of the fields cultivated by individual households cannot be taken as directly corresponding to the proportionate amounts of labor expended on activities to result in the yields.

Nevertheless, the comparison of yield figures in this column with the number of 'adults' of respective households displays significant diversity in the yields per 'adult'

between different households, which goes far beyond the range of per unit labor productivity. A few observations are thus justified. (1) The yields of the fields cultivated by individual households do not correlate with the amount of labor apparently suppliable by the members of the household. For example, some households obviously depend upon labor service from outside the households even for those activities other than transplanting and harvesting. In as many as twelve households, there is no male of the age range who is expected to take care of physically strenuous tasks. (2) Factors other than the household labor supply must enter into a field owner's decision of whether to self-cultivate all of his fields or to have a portion cultivated by others. For example, the household of Dakyun, row 1, produced 976.50 kg per 'adult'. In contrast, the household of Abiddaw, row 17, produced only 397.50 kg per 'adult', less than one half of the first household, while both households each have two 'adults', and one male capable of heavy labor. Significant difference does not obtain either between the two households in the number and the age range of their children (Tables 7 and 8). The second household had two of their own fields cultivated by others in each of the two crops. Even if it had self-cultivated all of its fields, the per 'adult' yield would have been only about three fourths of that in Dakyun's household.

Total yields accruing to the household (column VIII: AN+BN+CW). The amounts of rice in this column indicate the approximate gross income of Bantitan households through the

employment in rice cultivation, of their land in the forms of 'rice-fields', or their labor, or both. Most households drew a great majority of such gross income from self-cultivating their own fields although several households heavily depended upon their 'share' as the cultivators of share-cropped fields. Proportions of the three separate components of income to the total Bantitan gross income taken for the settlement as a whole are as follows:

AN, yields of Bantitan fields owned and self-cultivated	26,553.50 kg	80.69%
BW, 'shares' in yields of own fields cultivated by others	2,605.50 kg	7.92%
CW, 'shares' in yields of others' fields cultivated by Bantitan households	3,748.50 kg	11.39%

The settlement total of the 'shares' accruing to Bantitan households as the owners of share-cropped fields is a little less than the total of the 'shares' accruing to Bantitan households as the cultivators of share-cropped fields.

We must note, however, that the sum of the settlement total of the former (BW) and that of the latter (CW), i.e., 6354.00 kg = 2605.50 kg + 3748.50 kg, is almost the same as the total yields of fields owned by Bantitan households but cultivated by non-owners (BN), i.e., 6303.75 kg. Although we have seen a cultivator's 'share' in the yield of a share-cropped field to be greater in the average than an owner's share, the fact that roughly equal amounts of yields (BN and CN) were share-cropped by Bantitan households as owners and as cultivators respectively resulted in the almost perfect balance between, on the one hand, the settlement total of

those amounts which accrued to the non-owner labor providers from the yields of the share-cropped fields owned by Bantitan households (BN - BW) and, on the other, the settlement total of those amounts which accrued to the Bantitan cultivators from the yields of the fields not owned by them (CW). Settlement gross income derived from rice cultivation in pond fields would not greatly alter if Bantitan households would self-cultivate all their own fields, and not cultivate any others' fields.

The divergent amounts of the total yields accruing to individual households seen in this column, from the maximum of 2422.50 kg, row 2, to the minimum of 91.50 kg, row 18, do not serve as the criteria for their relative adequacy in meeting the subsistence requirements of respective households. The number of persons in each household as well as variations in consumption across different age-sex groupings must be considered. Table 32 shows an attempt to approximate the production-consumption balance for individual households.

Table 31. Baŋtitan Rice:

Mode per caput Regular Rice Consumption

"Mode per caput regular consumption" represents the quantity of home-pounded rice which Ūma residents regard as the standard of an individual's consumption per day. The purpose of determining the standards of consumption is to discover one of the quantitative bases on which people assess adequacy or inadequacy of rice at their disposal and plan in advance to provide themselves with the amount of rice which they regard necessary to support life and to stage special events. The discovery of such a basis of assessment will, in turn, serve as an aid for: (1) the appraisal of total yields accruing to Baŋtitan households from rice growing, in relation to the amounts required to meet expected normal consumption; and (2) the interpretation of the ways in which (and the extents to which) individual households accumulate and dispose of rice.

The particular amounts actually consumed vary between individual households and at different times within a given household. Factors causing the different amounts of actual consumption between the households of similar composition are numerous -- such as relative adequacy of rice in store, personal preferences, types of specific activities of individuals on particular days, and availability of food other than rice. Despite variations in actual consumption, Ūma residents are able to judge whether they do or do not have enough to eat till the following harvest. To an outsider's direct inquiry

regarding the usual amount which a person consumes one day, the residents usually respond in one of the two ways: "patūlay 'it depends'" and "sin qītiŋ si qōyak 'one qītiŋ of the qōyak variety (about 750g in the home-pounded form)'." One can also observe that people typically cook one dūpas (about 300g) of home-pounded rice per person when they prepare a meal for visitors or for those rendering service. Answers to our inquiry, however, are less than apparent: how are the people's statements as well as the observed one-dūpas-per-person practice, related to the actual amounts which individuals of different sexes and age-ranges expect to consume regularly, or to the local standard of adequate consumption?

Information from adult women in Baŋtitan settlement supplied keys to answering these questions. Adult women in Ūma, and particularly all those in charge of household meal preparation, cannot function without knowing the amount of rice to be normally cooked for household consumption. First, they must thresh and pound 'bundled rice' (pāgoy) every other day or every three days in average; and second, they must measure 'home-pounded rice' (bināyu) in order to select an earthen jar of the size appropriate to cook a particular quantity of rice. The women need to know the amount of rice used for subsistence in their households. By visiting each household in the settlement in July 1966, soon after the harvest of the 1966 dry season crop, I discussed with the woman of each household the daily rice consumption in her household. We focused our discussion on three questions: (1) how much

of 'home-pounded rice' (bināyu) she was cooking daily at that time; (2) what specific amounts were intended for which particular individuals of her household; and (3) whether she would cook more if there were more rice available to her household.

The data collected revealed what I here refer to as "mode per caput regular consumption." The quantities each woman stated that she was providing and/or wishing to provide in daily meals for individuals in her household were significantly uniform across the households of divergent economic standings, individuals being classified by the folk maturity-stage categories (see Fig. 9). On the one hand, there were households well provided with rice from production (see Table 32). But, even among those households, no woman indicated that household preparation and consumption of rice was uncalculated. This reflects that rice is a highly liquid asset in 'exchange' and has many uses other than direct consumption. On the other hand, roughly one half of the women (representing one half of the settlement households) stated that their ability to maintain the same level of daily consumption until the following harvest would depend upon whether they could acquire additional rice through transaction in the coming months. Some women were certain that a reduction of daily meal consumption within their own households would be necessary in a month's time.

Typically those women, who anticipated that their rice derived from production alone would lead to the forced reduction of household consumption, did not consider the reduction

of actual consumption as the inevitable consequence. Instead, the members of their households were expected to seek for additional rice through such various means as exchange for labor, exchange for goods, and borrowing, in order not to have to reduce their actual consumption. In the event that they would not be able to supply more rice for consumption in their own households, they would indeed consume less rice than they regard adequate, or they might eat more often in others' households; or they might do both. As all people know and as I observed during my stay, compelled reduction in individuals' actual consumption below the standard of expected consumption does commonly occur in weeks preceding each harvest. The important point to be underlined here is that the people judge the adequacy of their rice holding with reference to the standard of expected consumption, and take action to ensure as far as possible that the level of their actual consumption approxmates the standard of their expected consumption.

The quantities of 'home-pounded rice' (bināyu) in the table below, given in the dūpas unit, represent this standard of expected normal consumption. The data based upon the information provided by the Baŋtitan women were specific to particular individuals of their respective households. While there are, of course, many ways in which this information might be processed, the most obvious "modes of consumption" clearly emerge when the individuals and their expected consumption are classified by the locally recognized maturity stage of the individuals concerned. Thus, the table is ordered in accordance

with one of the local systems classifying persons by maturity stage and sex (see Fig. 9), and shows the mode consumption expected of an individual of each category. I have employed the mode value over the median because (1) the former better expresses the commonly conceived standards, and (2) the fraction of a dūpas entailed in a mathematical average would be artificial since more or less one half of a dūpas constitutes the minimum quantity measurable in the dūpas unit.

The table also shows the estimated caloric value (in square brackets) as well as the weight in kg (in parenthesis) of a given quantity of rice in dūpas for the purpose of facilitating the reader's evaluation of that quantity of rice. The zero quantity shown for 'baby' (bālabāla) does not imply that a baby never eats rice; it simply means that the amount of rice such a 'baby' partakes is so small, if any, that the quantity of rice to be cooked does not get adjusted specifically on the baby's account.

In relation to the indication of the caloric value, it is useful to note a few additional local practices relevant to individuals' expected rice consumption. The 'younger children' ($mutnok_b$) as well as younger ones of 'older children' ($ganak_c$) depend proportionately much less exclusively on rice for their total food intake than the older members of the society, by eating many different kinds of tidbits other than rice between meals. Thus, the caloric value of the rice which they are expected to consume does not approach the caloric value of their expected total food intake in the same way as

in the case of older individuals. A woman of the category of 'matured person' (noqotoŋ), from ages 17-19 to 40±, is, in a typical case, either pregnant or lactating most of the time. I observed no specific adjustment made in expected rice consumption for pregnancy and lactation, and I consider the mode for all women in the category itself accommodates the need for increased caloric intake due to pregnancy and lactation, which are more typical features of the women in the category than not.

Finally, in the light of the mode consumption shown on the table, a word is due on the people's common remarks on their usual daily consumption, which I have noted earlier: 'it depends' and 'one qītiŋ of the qōyak variety'. Individuals' expected consumption indeed depends upon their sex and maturity stage, and their actual consumption depends upon the various factors of a wide range. 'One qītiŋ of the qōyak variety' does constitute something akin to the mode consumption of the entire population in the society. When one qītiŋ is home-pounded, the rice recovered after pounding is 2.5 dūpas. This quantity is the mode for: those oldest ones, ages roughly 10-12, of 'older children' (qanak_c); 'young women' (babalāsaŋ_b); and 'matured persons' (noqotoŋ). The individuals so classified are, according to the Baŋtitan population census of July 1967, slightly less than one half the total settlement population.

I have observed that Ūma women usually allocate one dūpas per person in preparing to feed visitors and those

rendering service. One dūpas per person is locally regarded as a substantial meal for an adult. The eating sessions referred to as kakan 'real meal' take place twice daily in a household -- once in the morning and once in the evening. A third eating session called tugda usually takes place around noon. While most people expect to participate in the three eating sessions a day, the one in the middle of the day is usually the lightest of the three. Of all the households in Baŋtitan, about two-thirds cook rice twice a day and the rice cooked in the morning is served for tugda 'noon time snack'. The other one-third of the households were among those with many children and cook rice three times daily, by cooking anew for the 'noon time snack'. The proportions of rice cooked at different times of the day indicate that those individuals whose mode daily consumption is 2.5 dūpas are typically expected to consume a little less than one dūpas in the morning, a little over one half a dūpas at noon, and about one dūpas in the evening. 'Young men' whose mode consumption is 3 dūpas are expected to consume proportionately more at every eating session. One dūpas at one eating constitutes a standard expected consumption for everyone when he is engaged in strenuous activities.

Table 31. Bantitan Rice:
Mode per caput Rice Consumption

maturity stage[1] (age)[2]	male	female
VII 60±	markābaw 'aged person' 1.5 dūpas (450)[3][1615.5][4]	
VI (m: 45+) (f: 40±)	malmalongag$_b$ 'old man' 2.0 dūpas (600)[2154.0]	bakbakot$_b$ 'old woman'
V (m: 20~22) (f: 17~19)	nogoton 'matured person' 2.5 dūpas (750)[2692.5]	
VI (12~14)	bībilu$_b$ 'young man' 3.0 dūpas (900)[3231.0]	babalāsan$_b$ 'young woman' 2.5 dūpas (750)[2692.5]
III (3~4)	ganak$_c$ 'older child' (10~12)[5] 2.5 dūpas (750)[2692.5] (7~ 9)[5] 2.0 dūpas (600)[2154.0] (4~ 6)[5] 1.5 dūpas (450)[1615.5]	
II (4~5 mos.)	nutnok$_b$ 'young child' 1.0 dūpas (300)[1077.0]	
I	bālabāla 'baby' 0 dūpas	

[1] See Set C of maturity-stage categories on p. 117, and Table 7:-Bantitan Population: Household Composition by Folk Maturity-Stage Categories.

[2] Age ranges in which an attained maturity stage begins. Numerals refer to years except for those marked as "mos." that refer to months.

[3] Weight in grams.

[4] Caloric value estimated at 359 calories per 100g of home-pounded rice (FAO 1954:10).

[5] Three sets of age ranges within the maturity stage III, corresponding to three separate modes.

Table 32. Bantitan Rice:

Rice Production-Consumption Balance, 1966-1967

"Production" refers to yields accruing to the households in Bantitan from growing rice in pond fields, as owners or cultivators, or both. Particular yields shown in the table are the sum of the 1966 wet-season crop and the 1967 dry-season crop and correspond to column VIII of Table 1. "Consumption" in this table represents the estimates of regular intra-household expected consumption. To examine how such consumption compares with production for each household, one-year expected consumption is estimated in the weight (gram) of home-pounded rice on the basis of the mode per caput regular consumption shown on Table 31 The population census as of June 1, 1967 is employed to establish one-day consumption for each household, and the household consumption for the one year period, December 1966 - November 1967, is computed from this one-day consumption and shown kg.

"Production-consumption ratio", the consumption as percentage of the production, in this table serves only roughly to indicate for each household the adequacy of rice income from production in meeting its individuals' expected regular consumption. To the extent that the Ūma consider yields from pond fields and direct consumption respectively as the most primary income and expenditure of rice to a household, the ratio here estimated provides an index to relative household finance with respect to rice, displaying a wide range of ratios from more than 250 % to only about

13 %. Households are ranked by their ratios from the greatest to the least. Although ranking between adjacent ratio values, close to each other, is not meaningful, each household is separately ranked for convenience.

"Production -consumption balance" broadly approximates those quantities of rice from production, either in excess or short of household consumption estimates. The balance, though it may be only a rough estimate, is close to the amounts which the Ūma evaluate as "surplus" or "shortage" of their rice derived from production with respect to expected consumption requirements in individual households. As such, quantities shown as balance in the table suggest the amounts which some households seek to supply by means other than production and which other households consider available for uses other than intra-household regular consumption.

Table 32. Baŋtitan Rice: Rice Production-Consumption Balance (by household), 1966-1967

house site number	household head	number of persons	consumption per day g	consumption 1966-67 kg	production 1966-67 kg	production-consumption balance kg	production-consumption ratio %	ranking by production-consumption ratio
baŋtitan								
1.	dakyun	6	3300	1204.50	1953.00	748.50	162.14	6
2.	kāyu	7	4350	1587.75	2422.50	834.75	152.57	8
3.	wagāson	5	3450	1259.25	636.00	-623.25	50.51	32
4.	qantun	3	1800	657.00	940.50	283.50	143.15	9
5.	qānuy	6	2950	1040.25	730.50	-309.75	70.22	26
8.	dannuway	3	2550	930.75	285.00	-645.75	30.62	37
9.	qoggas	2	1050	383.25	900.00	516.75	234.83	2
10.	bakakaw	6	3750	1368.75	1398.75	30.00	102.19	17
11.	kinnag	2	1350	492.75	547.50	54.75	111.11	15
12.	sinyaŋ	1	750	273.75	690.00	416.25	252.05	1
13.	nusītu	2	1500	547.50	1236.75	689.25	225.89	3
14.	sūmiŋ	3	1950	711.75	997.50	285.75	140.15	10
15.	gunnaw	2	1350	492.75	604.50	111.75	122.68	12
16.	tunnay	1	600	219.00	465.00	246.00	212.33	4
17.	qumnas	6	3600	1314.00	1057.05	-256.95	80.45	24
18.	baŋanay	3	2250	821.25	108.75	-712.50	13.24	39
19.	qabiddaw	5	3000	1095.00	1005.00	-90.00	91.78	23
20.	guwaŋ	1	600	219.00	91.50	-127.50	41.78	34
21.	siyun	3	2100	766.50	438.00	-328.50	57.14	30
22.	duŋgāqas	5	2850	1040.25	1375.50	335.25	132.23	11
23.	dinayaw	1	450	164.25	154.50	-9.75	94.06	21
24a.	piŋnut	3	1800	657.00	802.50	145.50	122.15	13
24b.	nītu	4	2100	766.50	759.00	-7.50	99.02	18
25.	tunnīnu	5	2850	1040.25	1819.50	779.25	174.91	5
26.	paqatpat	2	1200	438.00	257.25	-180.75	58.73	29
27.	sabin	6	2700	985.50	1164.00	178.50	118.11	14
28.	bosway	5	3600	1314.00	388.50	-925.50	29.57	38
30.	kampin	3	1800	657.00	627.00	-30.00	95.43	20
31.	sakki	7	4500	1642.50	801.00	-841.50	48.77	33
32.	salaŋqoy	6	4200	1533.00	547.50	-985.50	35.71	36
33.	qanīkog	4	1800	657.00	607.50	-49.50	92.47	22
34.	qannamida	5	3150	1149.75	862.50	-287.25	75.02	25
35.	panyaw	3	2100	766.50	851.25	84.75	111.06	16
qapuŋul								
1.	sāwin	6	3600	1314.00	1267.50	-46.50	96.46	19
2.	kalwad	6	4350	1587.75	1056.00	-531.75	66.51	27
tumog								
1.	dawqin	3	2250	821.25	1305.00	483.75	158.90	7
2a.	tukmu	7	4650	1697.25	1005.00	-692.25	59.21	28
2b.	noplop	2	1350	492.75	193.50	-299.25	39.27	35
3.	tūkis	4	2700	985.50	555.00	-430.50	56.32	31
settlement total		154	96150	35094.75	32907.30	-2187.45[1]	93.77[2]	

[1] Settlement production total minus settlement consumption total.

[2] Settlement consumption total as percentage of settlement production total.

Table 33. Bantitan Rice
Rice Acquisition and Dispensation

"Acquisition" refers to acquisition through transaction, contrasting with "production" directly yielded from the employment of land or labor, or both, in growing rice. "Dispensation" refers to the relinquishment of rice through transaction, which contrasts with direct consumption.

With the cooperation of residents in the settlement and with the special assistance of a dozen of my close friends, records were kept of each household for every transaction entailing the movement of rice. The standard information recorded on each transaction includes: the form of rice and its varietal name if in bundles; the form of transaction; kinds and amounts of goods acquired or relinquished if 'exchange'; the name and residence of the other party to the transaction; and relationships between the two parties of transaction. Two or more close settlement friends of mine formed a team, each specifically responsible for several particular households to keep records. Transaction in such a small quantity as one dūpas (about 300 g in weight) was most frequent but tended to be forgotten unless recorded without time lapse. Since some of the transactions took place within the settlement, the acquisition records of one household could be cross-checked with the dispensation records of another household. Discrepancy found for transactions within the settlement enabled me to assess the probable amount of total unrecorded transactions. The tables

present figures as they were recorded, and I estimate that the recorded transactions represent well over 90 %, even slightly over 95 %, of the actual total transaction.

Table 33. Bantitan Rice: Rice Acquisition and Disponsation (by household), 1966-1967)

house site number	household head	Acquisition Dec. 66-May 67 kg[1]	Acquisition Dec. 66-May 67 No.[2]	Acquisition June-Dec. 67 kg	Acquisition June-Dec. 67 No.	Acquisition total kg	Acquisition total No.	Disponsation Dec. 66-May 67 kg	Disponsation Dec. 66-May 67 No.	Disponsation June-Dec. 67 kg	Disponsation June-Dec. 67 No.	Disponsation total kg	Disponsation total No.	Acquisition-Disponsation Balance kg
bartitan														
1.	dakyun	0	(0)	18.30	(9)	18.30	(9)	273.60	(13)	275.85	(24)	549.45	(37)	-531.15
2.	kīyu	0	(0)	16.20	(3)	16.20	(3)	108.60	(13)	78.60	(17)	187.20	(30)	-171.00
3.	wagison	162.00	(2)	102.30	(5)	264.30	(7)	76.90	(11)	130.05	(31)	206.95	(42)	57.35
4.	qantan	23.70	(3)	11.70	(6)	35.40	(9)	17.70	(6)	89.10	(56)	106.80	(62)	-71.40
5.	canuy	122.10	(7)	83.10	(27)	205.20	(34)	35.10	(16)	0	(0)	35.10	(16)	170.10
8.	dannuway	58.50	(6)	113.10	(20)	171.60	(26)	2.40	(4)	0	(0)	2.40	(4)	169.20
9.	gegas	0	(0)	0	(0)	0	(0)	3.30	(6)	0	(0)	3.30	(6)	-3.30
10.	bakakaw	0	(0)	0	(0)	0	(0)	111.60	(13)	220.55	(37)	332.15	(50)	-332.15
11.	kinnag	0	(0)	0	(0)	0	(0)	11.40	(12)	165.00	(17)	176.40	(29)	-176.40
12.	sinyan	0	(0)	0	(0)	0	(0)	13.50	(12)	45.90	(9)	59.40	(21)	-59.40
13.	ugsitu	108.00	(2)	30.00	(1)	138.00	(3)	30.00	(10)	100.80	(15)	130.80	(25)	7.20
14.	samig	52.50	(1)	18.00	(1)	70.50	(2)	33.00	(11)	93.00	(28)	126.00	(39)	-55.50
15.	gumay	0	(0)	75.90	(2)	75.90	(2)	4.50	(6)	56.10	(19)	60.60	(25)	15.30
16.	tumay	0	(0)	0	(0)	0	(0)	0	(0)	36.90	(14)	36.90	(14)	-36.90
17.	gamas	237.00	(5)	47.70	(7)	284.70	(12)	5.40	(7)	21.30	(7)	26.70	(14)	258.00
18.	bayanay	59.70	(7)	159.60	(14)	219.30	(21)	3.30	(7)	3.60	(1)	6.90	(8)	212.40
19.	gabiddaw	0	(0)	0	(0)	0	(0)	54.45	(16)	218.10	(14)	272.55	(30)	-272.55
20.	gamay[3]	10.05	(3)	—	—	10.05	(3)	0	(0)	—	—	0	(0)	10.05
20.	batangas[4]	—	—	48.90	(46)	48.90	(46)	—	—	6.90	(6)	6.90	(6)	42.00
21.	siyun	33.00	(3)	57.00	(5)	90.00	(8)	1.80	(3)	24.00	(13)	25.80	(16)	64.20
22.	d[illegible]gas	0	(0)	0	(0)	0	(0)	21.30	(12)	0	(0)	21.30	(12)	-21.30
23.	dimiyaw	93.00	(4)	249.00	(3)	342.00	(7)	0.90	(2)	7.80	(7)	8.70	(9)	333.30
24.	pirout	0	(0)	20.10	(10)	20.10	(10)	11.70	(4)	72.00	(21)	83.70	(25)	-63.60
25.	[illegible]u	0	(0)	16.80	(5)	16.80	(5)	0	(0)	83.10	(18)	83.10	(18)	-66.30
26.	[illegible]nu	0	(0)	0	(0)	0	(0)	55.20	(11)	94.50	(30)	149.70	(41)	-149.70
26.	[illegible]	0	(0)	15.30	(8)	15.30	(8)	39.60	(4)	87.00	(14)	126.00	(18)	-110.70
27.	sabin	270.00	(3)	30.00	(1)	300.00	(4)	5.70	(8)	16.50	(13)	22.20	(21)	277.80
29.	bosway	108.00	(1)	84.00	(2)	192.00	(3)	3.00	(6)	6.00	(3)	9.00	(9)	183.00
30.	kampin	27.00	(3)	72.00	(1)	99.00	(4)	21.30	(6)	0	(0)	21.30	(8)	77.70
31.	sakai	114.00	(4)	132.80	(14)	246.80	(18)	4.20	(5)	2.10	(3)	6.30	(8)	240.50
32.	salangoy	145.50	(3)	53.70	(54)	199.20	(57)	3.60	(7)	0	(0)	3.60	(7)	195.60
33.	ganikog	106.50	(5)	0	(0)	106.50	(5)	2.10	(3)	10.50	(7)	12.60	(10)	93.90
34.	gannamida	91.50	(3)	0	(0)	91.50	(3)	12.60	(10)	33.00	(11)	45.60	(21)	45.90
35.	pacyay	21.00	(3)	62.70	(5)	83.70	(8)	45.00	(8)	78.90	(16)	123.90	(24)	-40.20
gapugul														
1.	sawin	216.00	(6)	105.00	(7)	321.00	(13)	19.50	(9)	7.80	(4)	27.30	(13)	293.70
2.	kalwad	237.00	(4)	42.20	(9)	279.20	(13)	5.70	(5)	26.70	(14)	32.40	(19)	246.80
tumog														
1.	dawqin	0	(0)	0	(0)	0	(0)	42.90	(14)	144.30	(50)	187.20	(64)	-187.20
2a.	tukmu	144.00	(5)	33.90	(9)	177.90	(14)	32.70	(8)	22.50	(7)	55.20	(15)	122.70
2b.	noplop	38.85	(6)	12.00	(3)	50.85	(9)	1.20	(2)	3.60	(6)	4.80	(8)	46.05
3.	tūkis	80.70	(6)	41.40	(8)	122.10	(14)	2.40	(3)	2.40	(3)	4.80	(6)	117.30
total		2559.60	(95)	1752.70	(285)	4312.30	(380)	1116.55	(295)	2264.45	(535)	3381.00	(830)	931.30

[1] The quantity of rice transacted in any form, expressed in kg of the home-pounded form.
[2] The number of transactions in parenthesis.
[3] A widowed old woman left in August, and the household of which she was the sole member ceased to exist in the settlement. Since she neither acquired nor dispensed before her departure in the second consumption period of the 1967 dry season crop, her household is shown on the table as not forming part of this study for that period.
[4] A couple with a child moved into the vacated house in August. No records appear on the table for this household for the first consumption period. The amounts for the second consumption period are those which the household transacted after it moved in.

Table 34a. Bantitan Rice: Settlement Totals of Rice Transacted by Bantitan Households, 1966-1967[1]

	Dec. 1966-May 1967		June-Nov. 1967		total	
household acquisition settlement totals		2559.60		1752.70		4312.30
from Bantitan households		427.20[2]		946.30[3]		1373.60
in the form of 'bundled rice'	167.85		424.50		592.35	
in the form of 'home-pounded rice'	259.35		521.80		781.15	
from non-Bantitan sources		2132.40		806.40		2938.80
in the form of 'bundled rice'	217.50		327.00		544.50	
in the form of 'home-pounded rice'	1914.90		479.40		2394.30	
household dispensation settlement totals		1116.55		2264.45		3381.00
to Bantitan households		426.85[2]		952.80[3]		1379.65
in the form of 'bundled rice'	168.10		423.90		592.00	
in the form of 'home-pounded rice'	258.75		528.90		787.65	
to non-Bantitan sources		689.70		1311.65		2001.35
in the form of 'bundled rice'	384.00		788.75		1172.75	
in the form of 'home-pounded rice'	305.70		522.90		828.60	
settlement totals of rice transacted by Bantitan households[4]		3249.30		3070.85		6320.15

[1] The quantity of rice transacted in any form, expressed in kg of the home-pounded form.

[2] The discrepancy of 0.35kg results from the presence of unrecorded transactions.

[3] The discrepancy of 6.50kg results from the presence of unrecorded transactions.

[4] The settlement total of rice acquisition from non-Bantitan sources, plus that of rice dispensation to non-Bantitan sources, plus that of rice transacted within Bantitan, i.e., the acquisition total or dispensation total, whichever the greater and hence more exact.

Table 34b. Bantitan Rice:

Settlement Totals of Rice Accumulation and Disposition, 1966-1967

The local importance of rice for the people's resource management, as the staple grain and as a form of liquid asset, calls for a number of quantitative inquiries which include: (1) the adequacy of settlement total production in provisioning settlement total regular consumption; (2) the amounts of rice transacted into and out of the settlement; and (3) the settlement balance of rice accumulation and disposition. My records are inadequate to answer these and other important questions. The most notable inadequacy is due to the fact that I did not succeed in measuring exact actual consumption (see below). Nevertheless, even an approximation of the relevant quantities is valuable.

The amounts of rice which became available to the settlement in the one year following the 1966 wet-season crop were recorded with reasonable accuracy. Of disposition in the same period, dispensation through transaction was recorded in detail, and special consumption may be estimated on the basis of the number of man-meals. Actual consumption by every individual in the settlement was not recorded; but I have been able to estimate the amount required to supply everyone with "mode consumption", that is, the settlement requirement to enable everyone to consume daily what is culturally conceived as adequate

(see Table 31. Bantitan Rice: Mode per caput Regular Rice Consumption).

An evaluation of this amount in relation to the settlement total of production, as well as total accumulation, is of interest, especially in the light of noticeable "surplus" and "shortage" observed for individual households in the balance of their respective production and their expected intra-household consumption computed also from mode consumption (see Table 32. Bantitan Rice: Rice Production-Consumption Balance (by household), 1966-1967). It is feasible to assess the total disposition by utilizing the total consumption derived from individuals' mode consumption, and comparing this disposition assessment with the total rice accruing to Bantitan households. Such a disposition assessment serves to approximate the settlement total required both to meet expected consumption by individuals in everyday life ("mode consumption"), and to provide for other activities requiring rice (transactions, feasts, feeding of workers and visitors, etc.). The settlement balance derived from this disposition and the recorded accumulation total suggests on the settlement level the rough magnitude of the gap between the sum of the actual inflows and that of what the people consider as adequate for subsistence.

Distinct from this balance, the actual accumulation-disposition balance, if actual consumption were measured with accuracy, would establish how much more or less household dispositions in fact totaled than the settlement total of all accumulations. The two kinds of balance would have facilitated a valuable comparison, one containing actual consumption and the other containing expected normal consumption which expresses a cultural standard of adequacy. Since actual consumption does not appear in the assessment I am presenting below, two comments are useful on the subject: (1) the impossibility of measuring actual consumption with accuracy; and (2) my estimation of probable actual consumption based upon limited observation.

First, I decided not to use "actual consumption" because I judged it impossible to measure individuals' actual consumption accurately and extensively enough to establish the "actual consumption settlement total", i.e., the sum of consumption by all individuals in the settlement through as long a period as one year. My attempt to measure the exact amounts consumed by selected individuals during limited durations at different points in a year's time proved to be fruitless. The difficulties to overcome were enormous, and extended beyond the expected problems pertaining to the selection of samples and observation periods. Rice is typically not individually

served; two or more persons eat from the same plate. It is culturally highly objectionable for anyone to display specific interests in the exact amount consumed by another person. A single individual may eat outside his own household; it is impossible to attempt to measure the amount consumed by an individual in someone else's household--if the ethnographer does not wish to be expelled. More often than not, intended "measurement" turned out to be only "guessing" by observing the quantity of cooked rice consumed. After bitter disappointment, and embarrassment, I decided that I should not have made such an attempt at all. I continued recording the actual consumption only of several individuals in their own household with their understanding and cooperation.

At five different times in the year I was able to record for all households in the settlement what I trust to be the actual household consumption at the respective times of my inquiry. For a few weeks each time, I could record from day to day the actual household consumption of four households. These records reveal to the ethnographer many aspects of household consumption patterns since she can interpret the quantitative data in reference to her intimate knowledge of pertinent local practices, and specific social and economic relations of relevance. But the data do not form a basis for statistical computation toward "actual consumption

settlement total". Whatever friendly cooperation I could solicit, rather than any objective sampling, determined the selection of the few households more closely observed. Moreover, individuals' exact consumption cannot be deduced from a given household's consumption. In addition, actual consumption by the individuals of a household is not limited to their consumption in their own households, and those eating in a given household are not always confined to the members of the household. The most accurate actual regular consumption data would have been the exact records of household consumption at every eating session in every household in the settlement, minus the amounts consumed by persons from outside the settlement. Securing such data on the consumption of rice was an impossible proposition in the contexts of my fieldwork.

Second, my meagre records of individuals' consumption measurement, the household consumption records, and my observations focused on household and individual consumptions indicate a broad range of individuals' actual consumptions and enables me to estimate, though not to compute statistically, a likely range for the settlement total of actual consumption. Actual regular consumption is generally greater in the post-harvest period and lesser in the pre-harvest period. Typical individuals' consumption during the former period

does not exceed "mode consumption". Thus, the settlement total of actual regular consumption in one year is less than the one year total of individuals' "mode consumption", and the remaining crucial question concerns how much less.

People's judgments on the "adequacy" of rice available to a given household perceptibly affect household consumption, either by reducing it far below mode consumption, or by increasing it above the mode consumption of household members in order to provide enough to share with non-members. As noted elsewhere (e.g. pp.827-834 for the discussion of "mode consumption"), the members of those households drawing from production much less rice than their expected regular consumption normally take action, in advance of exhausting their limited supply, to acquire additional rice through other means and attempt to maintain their intra-household regular consumption at, or close to, the level of "mode consumption". Even then, a reduction of household consumption may occur. The number of households in the settlement as well as the extent of reduction in their household consumption below "mode consumption" vary from one rice consumption period to another, depending primarily upon the total yields accruing to the settlement households from production preceding each consumption period. During 1966-1967, which comprised

two successive consumption periods following the harvests locally judged as "usual", I observed in the lean seasons that several households reduced their actual consumption on some days 30-40% below mode consumption; one household more than 50% occasionally.

This reduction in household consumption, however, seldom directly reflects an equivalent reduction in the consumption of individual members of the households. Several alternatives enable individuals to maintain a level of actual consumption higher than might be deduced from the level of their household consumption. Households with adequate rice supply are supposed to be prepared at all times to feed unexpected visitors and as many other persons as appropriate. The amounts of rice consumed in those households by non-members are greater in lean seasons than when rice is generally abundant in many households. People, whether rich or poor, not only insist that all who are in the house at meal time should eat together but also very often call out from their house and extend an open invitation to whoever is in hearing distance to join in their meal. Subtle rules, whose description would require a separate paper, govern how people should respond to such invitations. One general consideration pertains to the known level of rice supply in the potential host's household. Other considerations concern the social status of potential

recipients as well as existing social relations between their households and those of potential hosts. Children enjoy the greatest privilege of accepting spontaneous invitations to share a meal in households other than their own; and, next to children, older persons are entitled to the privilege. Individuals in the categories of bībilu$_b$ 'young man', babalāsaŋ$_b$ 'young woman' and noqotoŋ 'matured person', on the other hand, can be subject to social ridicule if they are thought to be eating in others' households too frequently without culturally acceptable reasons, although their occasional acceptance is not only appropriate but desirable. In lean seasons, spontaneous open invitations extended by the well-to-do in the settlement receive, as well known by the people, more acceptances than at other times.

Close relatives may make almost regular arrangements, especially in lean seasons, by which the better-to-do provide for the less-well-to-do by feeding some or all of the children as well as older persons in the latter's households. Consequently the actual consumption of children and older persons usually does not fall far below their "mode consumption" on any single day as the direct function of rice scarcity in their own households; and greater proportions of reduced household consumption become available to the rest of the

members of less-well-provided households.

Compelled reduction in household consumption can still cause the individuals of categories bībilu$_b$ 'young man', babalāsaŋ$_b$ 'young woman' and noqotoŋ 'matured person' to reduce their actual consumption to much less than "mode consumption", as much as 40% according to the cases in my records. Within my observations, however, no person maintained such a reduced rate of consumption for many days in succession, usually not more than a day or two. The occasional acceptance of an invitation to a regular meal in another's household is not the only culturally acceptable means by which a person can procure a substantial meal outside of his own household. Labor service necessarily entails at least one meal aside from whatever forms of reciprocal arrangement are made for the labor service itself. Events requiring livestock slaughter and the preparation of a special meal are numerous. Regardless the time of year, some of these events inevitably take place in one household or another, especially among the better-provided households. Taking the settlement as a whole, one finds those events following one after another with irregular but short intervals in between (cf. Table 49, Baŋtitan Livestock: Settlement Totals of Slaughtered Livestock). Even when the events do not form public or major feasts, voluntary help from relatives and neighbors

is welcome to take care of extra work on such occasions: meat preparation, fetching water, cooking, and so forth. Those who help are supposed to stay through the event including participation in eating. Separate from offering voluntary help, attendance at some feasts is optional for many individuals. For a given individual, such feasts are normally large in number. It is quite accaeptable for him to choose to attend all such feasts, unlike regular meals in others' households.

Most individuals can maximally make use of these and other opportunities, and discreetly increase their rice consumption above what their own households can provide. If one should fail to do so in the extreme shortage of rice in his household, he would have two alternatives: either to subsist on a reduced level of rice consumption compensated with the increased consumption of rice substitutes; or to depend upon a meal invitation to another's household at the cost of injurious effects on his social standing. During my observations those particular individuals who faced these alternatives, both undesirable in the people's view, more typically chose the latter. Their choice was at least in part related to the fact that those individuals mostly coincide with those who held little stake in their status. In Ūma, capable individuals are rarely without relatives who

will grant an interest-free rice loan (see Chapter IV for a discussion of bogwat and qātal), provide work for their labor service, and share with them cooked food in culturally acceptable forms.

The lowest individual rice consumption I recorded in the two pre-harvest seasons during the year averaged 80% of "mode consumption" for a period of 14 days, although consumption on some of those days was much less. On the basis of my more general observations as well as relevant evaluations made by settlement residents, I am inclined to estimate that no individual's consumption in the settlement remained through the lean seasons of that year as low as 80% of "mode consumption", the lowest of that recorded. As far as I can judge, individuals whose consumption fell to 80% of "mode consumption" for more than a few weeks were small in number, and one out of five or six adults reduced their consumption to somewhat less, but rarely as much as 15% less, than their "mode consumption" within a month preceding harvests. Thus, it is safe to regard the settlement total of 1966-1967 actual consumption as greater than 80% of the sum of individual "mode consumption" itself. Further, I venture to suggest that the actual consumption settlement total perhaps remained higher than 90% of the total computed from individuals' "mode consumption".

Table 34b. Bantitan Rice: Settlement Totals of Rice Accumulation and Disposition, 1966-1967

Accumulation		
production (minus seeds)[1]		32,739.50 kg
acquisition[2]		2,938.80
the ethnographer's input[3]		1,940.00
		37,618.30 kg
Disposition		
regular consumption (computed from mode consumption)[4]		34,294.75 kg
special consumption[5]		1,435.90
out of settlement visitors and workers	825.60 kg	
feasts and workers	610.30 kg	
dispensation[6]		2,001.35
		37,732.00 kg
Accumulation-Disposition Balance		-113.70 kg

Explanatory notes to table:-

1. "Production" refers to the total yields accruing to Baŋtitan households both from the 1966 wet-season crop and the 1967 dry crop (see the sum of household total yields in column VIII on Table 30). The amount of seeds used by cultivators varies between 1.5% and 3.5% of expected yields, and typically amounts to around 2~2.5%. Seeds are not deducted from individual household production due to the lack of exact records for each of individual cases. For the settlement total, however, it is reasonable to regard 2% of the total yields of all fields owned by Baŋtitan households as seeds since the various acts of sharing seedlings between households within the settlement cancel each other out. Thus, 32,907.30 kg (the sum of total yields accruing to Baŋtitan households) - 167.80 kg (the seeds used for the fields owned by Baŋtitan households) = 32,739.50 kg.

2. "Acquisition" refers to the settlement total of rice acquired by individual households from outside the settlement. Table 33 shows household acquisition totals. The breakdown of this acquisition is:

	Dec. 66-May 67	June-Nov. 67
acquisition within Baŋtitan	427.20 kg	946.30 kg
acquisition from outside Baŋtitan	2132.40	806.40
	2559.60 kg	1752.70 kg

3. The amount shown is the estimate of that portion of the rice which I brought into Ūma and disposed in Baŋtitan either through transaction with, or direct consumption by, the residents of the settlement.

I imported milled rice from outside Ūma, mostly from Tabuk and occasionally from Nobwāgan, mainly out of two considerations, although in retrospect, I am uncertain of the wisdom of my action. First of all, I wished to minimize my use of cash in Ūma. Cash necessarily would circulate out of the initial recipient's hand. The circulation of cash, beyond the transaction between the initial recipient and myself, would be much harder to trace than rice. In addition, an increase in the amount of cash available in the region could readily translate itself into an increase in the purchase of commercial goods outside the region to an extent which would not normally occur without my presence. In comparison, rice would be either directly consumed by the recipient or transacted mostly within the settlement, or the region. Thus, I employed rice whenever possible to pay for labor and to exchange for goods.

Second, I desired not to let sizable consumption in my household place an atypical strain on the supply of local rice. The number of expected and unexpected visitors was large in my household--unusually large even by the local standard. While I was seldom able to

receive them properly as the well-to-do in the society would, by slaughtering livestock, I attempted to maintain the minimal local standard of cooking rice for them. Total rice consumption in my household amounted to a significant quantity, partially also due to my poor housekeeping.

During the period of December 1966-November 1967, I imported into Ūma 4,032 kg of rice, out of which I used about 2,020 kg for transactions with the non-residents of Baŋtitan. I estimate about 72 kg to be my personal consumption during the period. The remainder, 1,940 kg, appears on the table as the amount that I brought in from outside the settlement and disposed in interaction with the settlement residents. The amount is set aside from the rest of "acquisition" by the settlement households from sources outside the settlement, because the former resulted as a direct function of the ethnographer's presence and also because it indicates the scope of unescapable disruption in the usual operation of local economy caused by her presence.

4. "Regular consumption" derives from the calculation of individuals' one year consumption on the basis of "mode per caput regular consumption" (see above). Individuals of the settlement occasionally eat outside the settlement just as individuals from outside the settlement

partake of rice in the settlement as casual visitors and feast participants. I did not count all of the meals that Baŋtitan residents ate outside the settlement as I did of the number of meals taken in Baŋtitan by non-residents. On the basis of the relevant number of major feasts as well as on the assumption that casual visits involving meals between individual households in and out of the settlement were mostly reciprocal, I grossly estimate the total number of man-meals taken by Baŋtitan residents outside the settlement in 1966-1967 as approximately the same as that of man-meals taken in Baŋtitan by non-residents (see the row "special consumption" below).

A meal-to-a-meal saving of intra-settlement consumption does not result when individuals eat outside the settlement. Frequently eating outside the settlement takes place without advance planning, that is, without affecting meal preparation in settlement households. The cooked rice which an individual would have consumed if at home may or may not be applied to a following meal to save consumption. Households with adequate rice supply seldom save overnight the left-over of cooked rice for human consumption but feed it to pigs. Those with limited supply exercise a greater care to save as much consumption as possible. Practices in several households I observed closely lead me to judge that more

than one out of two, but less than two out of three, meals taken by Baŋtitan residents outside the settlement resulted in the saving of intra-settlement consumption. Since this estimate is only approximate, I employ a round figure, 800 kg, as the settlement total of such saving and deduct the amount from 36,094.75 kg, the settlement total of the estimated individuals' regular consumption.

5. "Special consumption" consists of rice served to visitors, to workers, and in feasts. The number of persons other than settlement residents was counted, and rice consumption in one man-meal is estimated as one dūpas, or 300g of home-pounded rice (see discussion preceding the table on "Mode per caput Regular Rice Consumption").

6. "Dispensation" in this table refers to the settlement total of the rice relinquished by individual households in transaction with people outside the settlement. Household dispensation totals appear on Table 33 as 1116.55 kg for December 1966-May 1967 and as 2264.45 kg for June-November 1967. The amounts dispensed within and outside the settlement are as follows:

	Dec. 66-May 67	June-Nov. 67
dispensation within Baŋtitan	426.85 kg	952.80 kg
dispensation to non-residents of Baŋtitan	689.70	1131.65
	1116.55 kg	2264.45 kg

Dispensation to people outside Baŋtitan totaled 2,001.35 kg for the year. Some transactions undoubtedly went unrecorded (see p. 841). For the purpose of the assessment shown on the table, however, unrecorded dispensation may be viewed as nearly balancing out with unrecorded acquisition.

Table 35. Dantitan Livestock: Livestock Owned by Dantitan Households
(values in bundled rice, numbers of animals, by general categories), October 1967

House-site number	House-hold head	nuwar$_{a.1}$ 'water buffalo'	bāka$_1$ 'cow'	balok$_{a.1}$ 'pig'	qāsu$_{a.1}$ 'dog'	manuk$_a$ 'chicken'	kabāyu$_1$ 'horse'	kūsa$_1$ 'cat'	kalpāti$_1$ 'pigeon'	kāmit$_1$ 'duck'	gansu$_1$ 'goose'	total
		value number	value number	value number	value number	value number	value number	value number	value number	value number	value number	value
Dantitan												
1.	[illegible]yun	0t(0)	0t(0)	1y3d0t(2)	2d0t(1)	3d4t(10)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	1y8d4t
2.	kīyu	21y0d0t(5)	30y4d0t(10)	3y9d0t(4)	0t(0)	9d3t(20)	11y0d0t(4)	0t(0)	4d8t(12)	0t(0)	0t(0)	67y6d1t
3.	[illegible]ason	2y0d0t(0)	0t(0)	0t(0)	1d6t(1)	1d2t(7)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	2y2d8t
4.	[illegible]tun	5y5d0t(1)	0t(0)	1y5d0t(3)	0t(0)	1d2t(7)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	7y1d2t
5.	[illegible]	0t(0)	0t(0)	6d0t(3)	0t(0)	1d7t(12)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	7d7t
6.	[illegible]way	0t(0)	0t(0)	0t(0)	0t(0)	1d2t(2)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	1d2t
7.	[illegible]	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t
8.	[illegible]ow	7y5d0t(2)	0t(0)	0t(0)	0t(0)	1d0t(5)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	7y6d0t
9.	[illegible]	12y5d0t(3)	0t(0)	3y1d0t(5)	2d0t(1)	3d6t(6)	0t(0)	3t(1)	0t(0)	0t(0)	0t(0)	16y1d9t
10.	[illegible]	0t(0)	0t(0)	8d0t(1)	2d0t(1)	1d5t(3)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	1y1d5t
11.	[illegible]u	16y5d0t(0)	0t(0)	4d0t(2)	1d6t(1)	1y1d5t(29)	0t(0)	0t(0)	0t(0)	2d4t(2)	2d4t(2)	18y6d9t
12.	[illegible]	7y5d0t(2)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	7y5d0t
13.	[illegible]	0t(0)	0t(0)	0t(0)	0t(0)	5t(1)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	5t
14.	[illegible]	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t
15.	[illegible]	0t(0)	0t(0)	4y5d0t(1)	2d0t(1)	1d1t(6)	0t(0)	0t(0)	0t(0)	2d0t(5)	0t(0)	5y0d1t
16.	[illegible]	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t
17.	[illegible]	12y0d0t(3)	0t(0)	1y3d0t(2)	4d0t(2)	4d1t(13)	0t(0)	5t(1)	0t(0)	0t(0)	0t(0)	14y1d6t
18.	[illegible]	0t(0)	0t(0)	1y1d0t(0)	0t(0)	1y0d4t(31)	0t(0)	0t(0)	0t(0)	1d2t(1)	0t(0)	2y2d6t
19.	[illegible]	0t(0)	0t(0)	0t(0)	0t(0)	1d1t(6)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	1d1t
20.	[illegible]	0t(0)	0t(0)	8d0t(1)	0t(0)	1d1t(6)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	9d1t
21.	[illegible]	0t(0)	0t(0)	0t(0)	0t(0)	6t(1)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	6t
22a.	[illegible]nut	0t(0)	0t(0)	0t(0)	0t(0)	3d7t(18)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	3d7t
22b.	[illegible]	0t(0)	0t(0)	2y6d0t(4)	4d0t(2)	9t(4)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	3y0d9t
23.	[illegible]īnu	39y0d0t(9)	0t(0)	1y5d0t(3)	0t(0)	6d1t(21)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	41y1d1t
24.	[illegible]pat	0t(0)	0t(0)	1y5d0t(3)	0t(0)	1y3d0t(27)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	2y8d0t
25.	[illegible]	5y5d0t(1)	0t(0)	0t(0)	0t(0)	1d1t(6)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	5y6d1t
26.	[illegible]	0t(0)	0t(0)	0t(0)	0t(0)	1d6t(3)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	1d6t
27.	[illegible]in	8y0d0t(1)	0t(0)	2d0t(1)	0t(0)	9t(4)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	8y2d9t
28.	[illegible]kki	0t(0)	0t(0)	0t(0)	0t(0)	1d5t(5)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	1d5t
29.	[illegible]qoy	0t(0)	0t(0)	8d0t(1)	0t(0)	2d7t(4)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	1y0d7t
30.	[illegible]	5y5d0t(1)	0t(0)	2d0t(1)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	5y7d0t
31.	[illegible]da	0t(0)	0t(0)	8d0t(1)	0t(0)	4d6t(15)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	1y2d6t
32.	[illegible]aw	0t(0)	0t(0)	3y0d0t(1)	1d6t(1)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	3y1d6t
Bugal												
1.	sāwin	0t(0)	0t(0)	3y6d0t(3)	0t(0)	6d5t(21)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	4y2d6t
2.	kalwad	0t(0)	0t(0)	2d0t(1)	1d0t(1)	8t(8)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	3d9t
Bog												
1.	dawqin	7y5d0t(2)	0t(0)	4y3d0t(6)	2d0t(1)	3d2t(9)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	12y3d2t
2a.	[illegible]	0t(0)	0t(0)	1y9d0t(4)	0t(0)	1d1t(6)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	2y0d6t
2b.	[illegible]lop	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t
3.	[illegible]	0t(0)	0t(0)	1y1d0t(1)	0t(0)	4t(4)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	1y1d4t
Total		150y0d0t(34)	30y4d0t(10)	40y9d0t(55)	7y3d9t(13)	1y2d7t(320)	11y0d0t(4)	8t(2)	4d8t(12)	5d6t(8)	2d4t(2)	246y3d1t

Table 36. Bantitan Livestock: Livestock Owned by Bantitan Households
(values in bundled rice, numbers of animals, by general catogories), January 1968

house-site number	household head	nuwan$_{a.1}$ 'water buffalo' value number	bāka$_1$ 'cow' value number	balok$_{a.1}$ 'pig' value number	gāsu$_{a.1}$ 'dog' value number	manuk$_a$ 'chicken' value number	kabāyu$_1$ 'horse' value number	kūsa$_1$ 'cat' value number	kalpāti$_1$ 'pigeon' value number	kāmit$_1$ 'duck' value number	gansu$_1$ 'goose' value number	total value
bantitan												
1.	dakyun	0t(0)	0t(0)	0t(0)	0t(0)	1d2t(2)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	1d2t
2.	kayu	13y5d0t(3)	25y8d0t(7)	3y4d0t(2)	0t(0)	2t(2)	11y0d0t(4)	0t(0)	4d8t(12)	0t(0)	0t(0)	54y2d0t
3.	wacāson	1y0d0t(1)	0t(0)	0t(0)	0t(0)	2t(2)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	1y0d2t
4.	gantun	5y5d0t(1)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	5y5d0t
5.	ginay	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t
6.	dannūway	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t
7.	gondia	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t
10.	bakākaw	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t
11.	kinnag	11y5d0t(3)	0t(0)	2y2d0t(2)	2d0t(1)	1d1t(2)	0t(0)	3t(1)	0t(0)	0t(0)	0t(0)	14y0d4t
12.	sirya	0t(0)	0t(0)	8d0t(1)	0t(0)	1d5t(3)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	9d5t
13.	[illegible]	16y5d0t(3)	0t(0)	0t(0)	1d0t(1)	7d9t(22)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	17y4d4t
14.	sāmit	6y5d0t(2)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	6y5d0t
15.	[illegible]	0t(0)	[illegible]	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t
16.	[illegible]nnay	0t(0)	[illegible]	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t
17.	[illegible]	0t(0)	0t(0)	2y0d0t(1)	2d0t(1)	0t(0)	0t(0)	0t(0)	0t(0)	2d2t(6)	0t(0)	2y4d2t
18.	[illegible]nay	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t
19.	gabiddaw	10y5d0t(3)	0t(0)	1y1d0t(1)	2d0t(1)	0t(0)	0t(0)	5t(1)	0t(0)	0t(0)	0t(0)	11y8d5t
20.	[illegible]qas	0t(0)	0t(0)	1y1d0t(1)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	1y1d0t
21.	siyun	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t
22.	dargāqas	0t(0)	0t(0)	8d0t(1)	0t(0)	1d1t(6)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	9d1t
23.	[illegible]yaw	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t
24.	[illegible]ut	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t
25.	[illegible]	0t(0)	0t(0)	2y8d0t(2)	2d0t(1)	9t(4)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	3y0d9t
26.	[illegible]nu	28y5d0t(8)	0t(0)	1y1d0t(1)	0t(0)	8t(3)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	29y6d9t
27.	[illegible]pat	0t(0)	0t(0)	1y5d0t(3)	0t(0)	1y3d0t(27)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	2y8d0t
28.	sakin	5y5d0t(1)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	5y5d0t
29.	[illegible]way	0t(0)	0t(0)	0t(0)	0t(0)	1d1t(2)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	1d1t
30.	kampin	8y0d0t(1)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	8y0d0t
31.	[illegible]kki	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t
32.	[illegible]qoy	0t(0)	0t(0)	8d0t(1)	0t(0)	5t(1)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	8d5t
33.	[illegible]kog	5y5d0t(1)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	5y5d0t
34.	[illegible]da	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t
35.	panyaw	0t(0)	0t(0)	3y0d0t(1)	1d6t(1)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	3y1d6t
qarugul												
1.	sāwin	0t(0)	0t(0)	1y9d0t(2)	0t(0)	4d4t(9)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	2y3d4t
2.	kalwad	0t(0)	0t(0)	2d0t(1)	1d0t(1)	1t(1)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	3d1t
tukog												
1.	dawqin	6y5d0t(2)	0t(0)	2y5d0t(3)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	9y0d0t
2.	tukru	0t(0)	0t(0)	1y1d0t(1)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	1y1d0t
3.	[illegible]plop	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t
4.	tākis	0t(0)	0t(0)	1y1d0t(1)	0t(0)	2t(2)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	1y1d2t
total		119y0d0t(29)	25y8d0t(7)	27y4d0t(25)	1y2d2t(7)	3y4d1t(88)	11y0d0t(4)	8t(2)	4d8t(12)	2d2t(6)	0t(0)	188y6d1t

Table 37. Bantitan Livestock: Livestock Owned by Bantitan Households
(values in bundled rice, numbers of animals, by general categories), March 1968

house site number	house-hold head	nuwan$_{a.1}$ 'water buffalo' value number	bāka$_1$ 'cow' value number	balok$_{a.1}$ 'pig' value number	gāsu$_{a.1}$ 'dog' value number	manuk$_a$ 'chicken' value number	kabāyu$_1$ 'horse' value number	kūsa$_1$ 'cat' value number	kalpāti$_1$ 'pigeon' value number	kāmit$_1$ 'duck' value number	gansu$_1$ 'goose' value number	total value
bantitan												
1.	dakyun	4y5d0t(1)	0t(0)	0t(0)	0t(0)	4d3t(5)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	4y9d3t
2.	kāyu	11y0d0t(2)	34y0d0t(9)	3y7d0t(2)	0t(0)	1d8t(3)	11y0d0t(4)	0t(0)	4d8t(12)	0t(0)	0t(0)	60y3d6t
3.	wagison	0t(0)	0t(0)	4d0t(2)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	4d0t
4.	qaston	7y5d0t(2)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	7y5d0t
5.	qinuy	0t(0)	0t(0)	2d0t(1)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	2d0t
6.	dasnūway	0t(0)	0t(0)	2d0t(1)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	2d0t
7.	qoggas	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t
10.	bakīkaw	5y5d0t(1)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	5y5d0t
11.	kinnag	3y0d0t(1)	0t(0)	3y3d0t(9)	2d0t(1)	8t(3)	0t(0)	5t(1)	0t(0)	0t(0)	0t(0)	6y6d3t
12.	sinyag	0t(0)	0t(0)	1y3d0t(2)	0t(0)	6t(1)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	1y3d6t
13.	[illegible]itu	14y0d0t(3)	0t(0)	0t(0)	3d0t(2)	4d8t(8)	0t(0)	0t(0)	0t(0)	0t(0)	2d4t(2)	15y0d2t
14.	[illegible]	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t
15.	qunnaw	0t(0)	0t(0)	2d0t(1)	0t(0)	5t(1)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	2d5t
16.	tunnay	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t
17.	qunnas	0t(0)	0t(0)	2y0d0t(1)	0t(0)	1d4t(4)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	2y1d4t
18.	bananay	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t
19.	qabiddaw	13y0d0t(3)	0t(0)	1y7d0t(1)	2d0t(1)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	14y9d0t
20.	[illegible]	0t(0)	0t(0)	1y1d0t(1)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	1y1d0t
21.	[illegible]	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t
22.	[illegible]	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t
24a.	[illegible]	0t(0)	0t(0)	0t(0)	0t(0)	4d9t(16)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	4d9t
24b.	[illegible]	0t(0)	0t(0)	3y4d0t(2)	2d0t(1)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	3y6d0t
25.	tunaīnu	28y5d0t(6)	0t(0)	2y1d0t(6)	0t(0)	6t(1)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	30y6d6t
26.	pagatpat	0t(0)	0t(0)	0t(0)	0t(0)	3d5t(15)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	3d5t
27.	sabin	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t
28.	lagway	0t(0)	0t(0)	0t(0)	1d6t(1)	2d5t(10)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	4d1t
30.	kanbin	0t(0)	0t(0)	0t(0)	0t(0)	4t(1)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	4t
31.	sakki	0t(0)	0t(0)	0t(0)	0t(0)	4d2t(8)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	4d2t
32.	salaqoy	3y0d0t(1)	0t(0)	8d0t(1)	0t(0)	1d2t(2)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	3y9d2t
33.	qanikog	5y5d0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	5y5d0t
34.	qunnarida	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t
35.	panyaw	0t(0)	0t(0)	1y7d0t(1)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	1y7d0t
qaputul												
1.	sāwin	0t(0)	0t(0)	0t(0)	6d0t(5)	4d9t(13)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	1y0d9t
2.	kalwad	0t(0)	0t(0)	0t(0)	2d0t(1)	4d0t(9)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	6d0t
tunog												
1.	dawqin	8y5d0t(2)	0t(0)	3y6d0t(3)	1d0t(1)	2d0t(10)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	12y4d0t
2.	tukmu	0t(0)	0t(0)	2y9d0t(7)	0t(0)	1d2t(2)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	3y0d2t
3.	neplop	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	0t
4.	tukis	0t(0)	0t(0)	3y4d0t(2)	0t(0)	1d2t(7)	0t(0)	0t(0)	0t(0)	0t(0)	0t(0)	3y5d2t
total		104y0d0t(23)	34y0d0t(9)	32y0d0t(43)	1y9d6t(13)	4y4d8t(119)	11y0d0t(4)	5t(1)	4d8t(12)	0t(0)	2d4t(2)	188y2d1t

Table 38. Baŋtitan Livestock:

Total and Average Values of Livestock Owned by Baŋtitan Households
(values in bundled rice)

house site number	household head	October 1967	January 1968	March 1968	average
baŋtitan					
1.	dakyun	1y8d4t	1d2t	4y9d3t	2y3d0t
2.	kāyu	67y6d1t	54y2d0t	60y3d6t	60y7d2t
3.	wagāson	2y2d8t	1y0d2t	4d0t	1y2d3t
4.	qantun	7y1d2t	5y5d0t	7y5d0t	6y7d1t
5.	qānuy	7d7t	0t	2d0t	3d2t
8.	dannūway	1d2t	0t	2d0t	1d1t
9.	qoggas	0t	0t	0t	0t
10.	bakākaw	7y6d0t	0t	5y5d0t	4y3d7t
11.	kinnag	16y1d9t	14y0d4t	6y6d3t	12y2d9t
12.	sinyaŋ	1y1d5t	9d5t	1y3d6t	1y1d5t
13.	nusītu	18y6d9t	17y4d4t	15y0d2t	17y0d5t
14.	sūmiŋ	7y5d0t	6y5d0t	0t	4y6d7t
15.	gunnaw	5t	0t	2d5t	1d0t
16.	tunnay	0t	0t	0t	0t
17.	qumnas	5y0d1t	2y4d2t	2y1d4t	3y1d9t
18.	baŋānay	0t	0t	0t	0t
19.	qabiddaw	14y1d6t	11y8d5t	14y9d0t	13y6d4t
20.	bataŋgas	2y2d6t	1y1d0t	1y1d0t	1y4d9t
21.	siyun	1d1t	0t	0t	4t
22.	duŋgāqas	9d1t	9d1t	--[1]	9d1t
23.	dināyaw	6t	0t	0t	2t
24a.	piŋnut	3d7t	0t	4d9t	2d9t
24b.	nītu	3y0d9t	3y0d9t	3y6d0t	3y2d6t
25.	tunnīnu	41y1d1t	29y6d8t	30y6d6t	33y8d2t
26.	pagatpat	2y8d0t	2y8d0t	3d5t	1y9d8t
27.	sabin	5y6d1t	5y5d0t	0t	3y7d0t
28.	bosway	1d6t	1d1t	4d1t	2d3t
30.	kampin	8y2d9t	8y0d0t	4t	5y4d4t
31.	sakki	1d5t	0t	4d2t	1d9t
32.	salaŋqoy	1y0d2t	8d5t	3y9d2t	1y9d3t
33.	qanīkog	5y7d0t	5y5d0t	5y5d0t	5y5d7t
34.	qannamīda	1y2d6t	0t	0t	4d2t
35.	panyaw	3y1d6t	3y1d6t	1y7d0t	2y6d7t
qapuŋul					
1.	sāwin	4y2d6t	2y3d4t	1y0d9t	2y5d6t
2.	kalwad	3d8t	3d1t	6d0t	4d3t
tumog					
1.	dawqin	12y3d2t	9y0d0t	12y4d0t	11y2d4t
2a.	tukmu	2y0d6t	1y1d0t	3y0d2t	2y0d6t
2b.	noplop	0t	0t	0t	0t
3.	tūkis	1y1d4t	1y1d2t	3y5d2t	1y9d3t
settlement totals		246y3d1t	188y6d1t	188y2d1t	207y7d1t
number of households		39	39	38	38.7
(persons)		(163)	(164)	(157)	(161)
average per household		6y3d2t	4y8d4t	4y9d5t	5y3d7t

[1] The household moved away to another settlement in Ūma at the end of January 1968.

Table 39. Bantitan Livestock: Bantitan-owned Livestock Totals (numbers of animals, values in bundled rice, by general categories); October 1967, February 1968 and March 1968[1]

kinds of livestock	October 1967 number	October 1967 value	October 1967 %	January 1968 number	January 1968 value	January 1968 %	March 1968 number	March 1968 value	March 1968 %	average number	average value	average %
nuwan$_{a.1}$ 'water buffalo'	34	150y0d0t	60.90	29	119y0d0t	63.09	23	104y0d0t	55.26	28.7	124y3d3t	59.86
bāka$_1$ 'cow'	10	30y4d0t	12.34	7	25y8d0t	13.68	9	34y0d0t	18.06	8.7	30y0d7t	14.48
balok$_{a.1}$ 'pig'	55	40y9d0t	16.61	25	27y4d0t	14.53	43	32y0d0t	17.00	41.0	33y4d3t	16.09
gāsu$_1$ 'dog'	13	2y3d8t	0.97	7	1y2d2t	0.65	13	1y9d6t	1.04	11.0	1y8d5t	0.89
kabāyu$_1$ 'horse'	4	11y0d0t	4.47	4	11y0d0t	5.83	4	11y0d0t	5.84	4.0	11y0d0t	5.30
kūsa$_1$ 'cat'	2	8t	0.03	2	8t	0.04	1	5t	0.03	1.7	7t	0.03
manuk$_a$ 'chicken'	320	10y2d7t	4.17	88	3y4d1t	1.81	119	4y4d8t	2.38	175.7	6y0d5t	2.91
kalpāti$_1$ 'pigeon'	12	4d8t	0.19	12	4d8t	0.25	12	4d8t	0.26	12.0	4d8t	0.23
kāmit$_1$ 'duck'	8	5d6t	0.23	6	2d2t	0.12	0	0t	0.00	4.7	2d6t	0.13
gansu$_1$ 'goose'	2	2d4t	0.10	0	0t	0.00	2	2d4t	0.13	1.3	1d6t	0.08
total		246y3d1t	100.01		188y6d1t	100.00		188y2d1t	100.00		207y7d1t[2]	100.00

[1] Bantitan population: October 1967--39 households, 163 persons; January 1968--39 households, 164 persons; March 1968--38 households, 157 persons.

[2] This represents the average of the totals (which are exact) rather than the total of averages (which are rounded, and therefore inexact).

Table 40. Baŋtitan Livestock: Baŋtitan-owned 'Water Buffalo' Totals (numbers of animals, values in bundled rice, by specific categories[1]); October 1967, February 1968, and March 1968

	October 1967		January 1968		March 1968		average	
nuwaŋ$_{a.1}$ 'water buffalo'	number	value	number	value	number	value	number	value
tūlu 'fully grown water buffalo bull'	1	8y0d0t	1	8y0d0t	1	8y0d0t	1.0	8y0d0t
kalaŋtaŋan$_a$ 'fully grown water buffalo cow'	17	93y5d0t	13	71y5d0t	12	66y0d0t	14.0	77y0d0t
paqabqabbāya 'young water buffalo bull' (maŋqālat tūlu; nāki)	2	11y0d0t	0	0t	1	5y5d0t	1.0	5y5d0t
nappāyuŋan 'young water buffalo cow' (paqina)	1	5y0d0t	2	10y0d0t	0	0t	1.0	5y0d0t
mamalu$_a$ 'water buffalo bullock'	2	9y0d0t	4	18y0d0t	1	4y5d0t	2.3	10y5d0t
bumalāsaŋ 'water buffalo heifer'	1	3y5d0t	1	3y5d0t	0	0t	0.7	2y3d3t
galad 'weaned water buffalo calf'	0	0t	0	0t	4	12y0d0t	1.3	4y0d0t
gayyubu$_{a.2}$ 'nursing water buffalo calf'	10	20y0d0t	8	8y0d0t	4	8y0d0t	7.3	12y0d0t
total	34	150y0d0t	29	119y0d0t	23	104y0d0t	28.7	124y3d3t

[1] Common referential synonyms in parenthesis.

Table 41. Baŋtitan Livestock: Baŋtitan-owned 'Cow' Totals
(numbers of animals, values in bundled rice, by specific categories[1]);
October 1967, February 1968, and March 1968

	October 1967		January 1968		March 1968		average	
bāka$_1$ 'cow'	number	value	number	value	number	value	number	value
tūlu 'fully grown bull'	0	0t	0	0t	0	0t	0.0	0t
kalaŋtaŋan$_a$ 'fully grown cow'	0	0t	4	20y0d0t	4	20y0d0t	2.7	13y3d3t
paqabqabbāya 'young bull' (manqālat tūlu; nāki)	0	0t	0	0t	0	0t	0.0	0t
napnāyuŋan 'young cow' (paqina)	5	20y0d0t	0	0t	0	0t	1.7	6y6d7t
namalu$_a$ 'bullock'	2	6y8d0t	1	3y4d0t	0	0t	1.0	3y4d0t
bumalāsaŋ 'heifer'	0	0t	0	0t	4	12y8d0t	1.3	4y2d7t
galad 'weaned calf'	0	0t	0	0t	0	0t	0.0	0t
gayyubu$_{a.2}$ 'nursing calf'	3	3y6d0t	2	2y4d0t	1	1y2d0t	2.0	2y4d0t
total	10	30y4d0t	7	25y8d0t	9	34y0d0t	8.7	30y0d7t

[1] Common referential synonyms in parenthesis.

Table 42. Bantitan Livestock: Bantitan-owned 'Pig' Totals
(numbers of animals, values in bundled rice, by specific categories[1]):
October 1967, February 1968, and March 1968

	October 1967		January 1968		March 1968		average	
balok$_{a.1}$ 'pig'	number	value	number	value	number	value	number	value
mabūtu 'fully grown barrow'	1	4y5d0t	0	0t	0	0t	0.3	1y5d0t
tūmoŋ 'fully grown sow'	1	3y0d0t	1	3y0d0t	0	0t	0.7	2y0d0t
mamalu$_a$ 'young barrow' (nāyasa nāki)	0	0t	1	2y0d0t	2	4y0d0t	1.0	2y0d0t
nāyas$_a$ 'farrowed sow'	5	8y5d0t	4	6y8d0t	11	18y7d0t	6.7	11y3d3t
piddal$_a$ 'young sow'	13	14y3d0t	11	12y1d0t	3	3y3d0t	9.0	9y9d0t
gamāyan$_a$ 'young pig'	5	4y0d0t	3	2y4d0t	1	8d0t	3.0	2y4d0t
pusu 'shoat'	6	1y8d0t	1	3d0t	0	0t	2.3	7d0t
nukon 'piglet'	24	4y8d0t	4	8d0t	26	5y2d0t	18.0	3y6d0t
total	55	40y9d0t	25	27y4d0t	43	32y0d0t	41.0	33y4d3t

[1] Common referential synonyms in parenthesis.

Table 43. Bantitan Livestock: Bantitan-owned 'Dog' Totals
(numbers of animals, values in bundled rice, by specific categories[1]);
October 1967, February 1968, and March 1968

gāsu a.l 'dog'	October 1967		January 1968		March 1968		average	
	number	value	number	value	number	value	number	value
nāki 'dog'	1	2d0t	0	0t	1	2d0t	0.7	1d3t
pagina 'bitch'	8	1y6d0t	4	8d0t	5	1y0d0t	5.7	1y1d3t
napug 'young dog'	3	4d8t	2	3d2t	1	1d6t	2.0	3d2t
masnad 'weaned puppy'	1	1d0t	1	1d0t	0	0t	0.7	7t
nukon 'nursing puppy'	0	0t	0	0t	6	6d0t	2.0	2d0t
total	13	2y3d8t	7	1y2d0t	13	1y9d6t	11.0	1y8d5t

[1] Common referential synonyms in parenthesis.

Table 44. Baŋtitan Livestock: Baŋtitan-owned 'Chicken' Totals
(numbers of animals, values in bundled rice, by specific categories);
October 1967, February 1968, and March 1968

manuk$_a$ 'chicken'	October 1967		January 1968		March 1968		average	
	number	value	number	value	number	value	number	value
kawannuŋ 'large cock'	4	4d0t	2	2t	1	2d0t	2.3	2d1t
kawītan$_{a.2}$ 'cock'	20	1y2d0t	7	4d2t	8	4d2t	11.7	6d8t
gaŋŋak$_a$ 'hen'	67	4y0d2t	20	1y2d0t	27	1y6d0t	38.0	2y2d7t
magasōlog 'cockerel'	0	0t	0	0t	1	5t	0.3	2t
mamalāsaŋ 'pullet'	59	2y9d5t	25	1y2d5t	17	8d5t	33.7	1y6d8t
qisiw$_{a.1}$ 'chick'	170	1y7d0t	34	3d4t	63	1y0d0t	89.0	1y0d1t
total	320	10y2d7t	88	3y4d1t	119	4y4d8t	176.0	6y0d5t

Table 45. Bantitan Livestock: Livestock Slaughtered by Bantitan Households (numbers of animals, values in bundled rice, by general categories), April 1966 - May 1967

house site number	house-hold head	nuwan$_{a.1}$ 'water buffalo'		bāka$_1$ 'cow'		balok$_{a.1}$ 'pig'		qāsu$_{a.1}$ 'dog'		manuk$_a$ 'chicken'		kāmit$_1$ 'duck'		total
		number	value	number	value	number	value	number	value	number	value	number	value	value
bantitan														
1.	dakyun	0	0t	0	0t	2	1y1d0t	0	0t	3	1d6t	0	0t	1y2d6t
2.	kīyu	0	0t	0	0t	5	1y5d0t	1	2d0t	10	5d1t	0	0t	2y2d1t
3.	wa[illegible]son	1	5y0d0t	0	0t	13	8y4d0t	3	6d0t	41	2y0d5t	0	0t	16y0d5t
4.	qa[illegible]un	0	0t	0	0t	1	3d0t	1	2d0t	4	2d0t	0	0t	7d0t
5.	q[illegible]uy	0	0t	0	0t	0	0t	0	0t	3	1d5t	0	0t	1d5t
8.	d[illegible]way	0	0t	0	0t	0	0t	0	0t	2	1d0t	0	0t	1d0t
9.	q[illegible]	0	0t	0	0t	1	8d0t	0	0t	6	3d0t	0	0t	1y1d0t
10.	b[illegible]kaw	1	5y0d0t	0	0t	4	2y7d0t	0	0t	1	5t	0	0t	7y7d5t
11.	k[illegible]	3	15y0d0t	0	0t	3	1y9d0t	1	2d0t	2	1d0t	0	0t	17y2d0t
12.	s[illegible]	0	0t	0	0t	1	8d0t	0	0t	0	0t	0	0t	8d0t
13.	m[illegible]tu	0	0t	0	0t	3	1y9d0t	0	0t	3	1d5t	0	0t	2y0d5t
14.	s[illegible]	0	0t	0	0t	0	0t	0	0t	0	0t	0	0t	0t
15.	q[illegible]w	0	0t	0	0t	2	1y1d0t	0	0t	5	2d5t	0	0t	1y3d5t
17.	q[illegible]as	0	0t	0	0t	1	3d0t	1	2d0t	8	4d0t	1	1d2t	1y0d2t
18.	b[illegible]nay	0	0t	0	0t	0	0t	0	0t	0	0t	0	0t	0t
19.	qubiddaw	1	5y0d0t	0	0t	8	3y9d0t	2	4d0t	4	2d0t	0	0t	9y5d0t
20.	b[illegible]gon	0	0t	0	0t	0	0t	0	0t	0	0t	0	0t	0t
21.	s[illegible]	0	0t	0	0t	6	3y3d0t	1	2d0t	3	1d5t	1	1d2t	3y7d7t
22.	d[illegible]as	0	0t	0	0t	0	0t	0	0t	2	1d0t	0	0t	1d0t
23.	d[illegible]yaw	0	0t	0	0t	0	0t	0	0t	0	0t	0	0t	0t
24a.	pignat	1	5y0d0t	0	0t	12	4y6d0t	3	6d0t	15	7d1t	0	0t	10y9d1t
24b.	nīto	0	0t	0	0t	0	0t	0	0t	0	0t	0	0t	0t
25.	tunīnu	0	0t	0	0t	2	1y1d0t	1	2d0t	1	5t	0	0t	1y3d5t
26.	p[illegible]tpat	0	0t	1	4y0d0t	6	7y4d0t	2	4d0t	5	2d5t	0	0t	12y0d5t
27.	salin	2	10y0d0t	0	0t	4	2y7d0t	2	4d0t	5	2d5t	0	0t	13y3d5t
28.	b[illegible]y	0	0t	0	0t	3	1y9d0t	0	0t	1	5t	0	0t	1y9d5t
30.	k[illegible]pin	0	0t	0	0t	2	1y6d0t	0	0t	5	2d5t	0	0t	1y8d5t
31.	sakki	3	13y0d0t	0	0t	3	1y9d0t	1	2d0t	4	2d0t	0	0t	15y3d0t
32.	s[illegible]qoy	0	0t	0	0t	1	3d0t	0	0t	4	2d0t	2	2d4t	7d4t
33.	q[illegible]	2	10y0d0t	0	0t	4	6y4d0t	1	2d0t	7	3d5t	0	0t	16y9d5t
34.	q[illegible]īda	1	5y0d0t	0	0t	12	5y0d0t	0	0t	6	3d0t	0	0t	10y9d0t
35.	panyaw	1	5y0d0t	0	0t	7	4y1d0t	0	0t	8	4d0t	0	0t	9y5d0t
qapuṛul														
1.	sāwin	3	15y0d0t	0	0t	8	3y9d0t	1	2d0t	15	7d5t	0	0t	19y8d5t
2.	kalwad	0	0t	0	0t	2	6d0t	0	0t	5	2d5t	0	0t	8d5t
tumog														
1.	dawqin	0	0t	0	0t	2	6d0t	0	0t	4	2d0t	0	0t	8d0t
2a.	tukmu	0	0t	0	0t	4	1y7d0t	0	0t	6	3d0t	0	0t	2y0d0t
2b.	neplop	0	0t	0	0t	1	3d0t	0	0t	0	0t	0	0t	3d0t
3.	tūkis	1	5y0d0t	0	0t	2	1y1d0t	1	2d0t	3	1d5t	0	0t	6y4d5t
total		20	99y0d0t	1	4y0d0t	125	73y8d0t	22	4y4d0t	191	9y5d3t	4	4d8t	190y2d1t

Table 46. Baṇtitan Livestock: Livestock Slaughtered by Baṇtitan Households (numbers of animals, values in bundled rice, by general categories), June 1967 - November 1967

house site number	house-hold head	nuwaṇ$_{a.1}$ 'water buffalo'		balok$_{a.1}$ 'pig'		qāsu$_{a.1}$ 'dog'		manuk$_{a}$ 'chicken'		kāmit$_{1}$ 'duck'		total
		number	value	number	value	number	value	number	value	number	value	value
baṇtitan												
1.	dakyun	0	0t	2	6d0t	0	0t	2	1d1t	0	0t	7d1t
2.	kāyu	0	0t	2	6d0t	0	0t	3	2d1t	0	0t	8d1t
3.	wagāson	0	0t	4	1y7d0t	1	2d0t	4	2d2t	1	1d2t	2y2d4t
4.	qantun	0	0t	3	1y4d0t	0	0t	1	5t	0	0t	1y4d5t
5.	qanuy	0	0t	2	6d0t	0	0t	6	3d3t	0	0t	9d3t
8.	dannūway	0	0t	0	0t	0	0t	0	0t	0	0t	0t
9.	qoqqas	0	0t	0	0t	0	0t	0	0t	0	0t	0t
10.	bakīkaw	0	0t	3	9d0t	0	0t	5	2d5t	0	0t	1y1d5t
11.	kinnag	0	0t	3	9d0t	0	0t	0	0t	0	0t	9d0t
12.	sinyaṇ	0	0t	0	0t	0	0t	0	0t	0	0t	0t
13.	nuaītu	0	0t	1	3d0t	1	2d0t	6	3d1t	0	0t	8d1t
14.	sūmir	0	0t	0	0t	0	0t	0	0t	0	0t	0t
15.	qunnaw	0	0t	0	0t	0	0t	0	0t	0	0t	0t
16.	tunnay	0	0t	0	0t	0	0t	0	0t	0	0t	0t
17.	qumnas	1	5y0d0t	4	1y2d0t	0	0t	3	1d5t	0	0t	6y3d5t
18.	baṇanay	0	0t	0	0t	0	0t	0	0t	0	0t	0t
19.	qabiddaw	0	0t	0	0t	1	2d0t	0	0t	0	0t	2d0t
20.	quway[1]	0	0t	0	0t	0	0t	0	0t	0	0t	0t
20.	baṭaṇgas[2]	0	0t	0	0t	0	0t	3	1d6t	0	0t	1d6t
21.	siyuṇ	0	0t	0	0t	0	0t	0	0t	0	0t	0t
22.	duṇṇāqas	0	0t	0	0t	0	0t	0	0t	0	0t	0t
23.	dinīyaw	0	0t	2	2y0d0t	0	0t	2	1d2t	0	0t	2y1d2t
24a.	piṇnut	0	0t	7	4y6d0t	1	2d0t	6	3d2t	0	0t	5y1d2t
24b.	nītu	0	0t	0	0t	0	0t	0	0t	0	0t	0t
25.	tunnīnu	0	0t	1	3d0t	0	0t	3	1d5t	0	0t	4d5t
26.	paqatpat	0	0t	0	0t	0	0t	5	2d7t	0	0t	2d7t
27.	sabin	0	0t	1	3d0t	0	0t	1	6t	0	0t	3d6t
29.	bosway	0	0t	0	0t	0	0t	0	0t	0	0t	0t
30.	kampin	0	0t	1	8d0t	0	0t	2	1d0t	0	0t	9d0t
31.	sakki	1	5y0d0t	2	1y1d0t	0	0t	4	2d0t	0	0t	6y3d0t
32.	salaṇqoy	0	0t	0	0t	1	2d0t	0	0t	0	0t	2d0t
33.	qanīkog	0	0t	1	3d0t	0	0t	1	6t	0	0t	3d6t
34.	qannamīda	0	0t	1	8d0t	0	0t	4	2d2t	0	0t	1y0d2t
35.	panyaw	0	0t	5	2y0d0t	0	0t	4	2d0t	0	0t	2y2d0t
qapuṇul												
1.	sāwin	0	0t	2	6d0t	0	0t	0	0t	0	0t	6d0t
2.	kalwad	0	0t	1	3d0t	0	0t	0	0t	0	0t	3d0t
tumog												
1.	dawqin	0	0t	0	0t	1	2d0t	4	2d2t	0	0t	4d2t
2a.	tukmu	0	0t	2	1y6d0t	0	0t	5	2d7t	0	0t	1y0d7t
2b.	noplop	0	0t	0	0t	0	0t	0	0t	0	0t	0t
3.	tūkis	0	0t	0	0t	0	0t	1	6t	0	0t	6t
total		2	10y0d0t	50	22y9d0t	6	1y2d0t	75	4y0d4t	1	1d2t	38y2d6t

[1] A widowed childless woman left at the beginning of August 1967 for her native region, Nobwāgan.

[2] A couple with a child moved into the vacant house and took up residence in Baṇtitan at the end of August 1967.

Table 47. Baṇtitan Livestock: Livestock Slaughtered by Baṇtitan Households (numbers of animals, values in bundled rice, by general categories), December 1967 - January 1968

house site number	house-hold head	nuwar$_{a.1}$ 'water buffalo' number	value	balok$_{a.1}$ 'pig' number	value	gāsu$_{a.1}$ 'dog' number	value	manuk$_{a}$ 'chicken' number	value	kamit$_{1}$ 'duck' number	value	total value
baṇtitan												
1.	dakyun	0	0t		0t	0	0t	1	5t	0	0t	5t
2.	kāyu	0	0t	1	1y1d0t	0	0t	0	0t	0	0t	1y1d0t
3.	waqāson	1	5y0d0t	0	0t	0	0t	0	0t	0	0t	5y0d0t
4.	qantun	0	0t	0	0t	0	0t	0	0t	0	0t	0t
5.	qanuy	0	0t	0	0t	0	0t	1	6t	0	0t	6t
8.	dinnūway	0	0t	2	1y1d0t	0	0t	0	0t	0	0t	1y1d0t
9.	qoqqas	0	0t	0	0t	0	0t	0	0t	0	0t	0t
10.	bakākaw	1	5y5d0t	3	1y4d0t	0	0t	1	5t	0	0t	6y9d5t
11.	kinnag	0	0t	0	0t	0	0t	1	6t	0	0t	6t
12.	sinyaṇ	0	0t	0	0t	0	0t	0	0t	0	0t	0t
13.	nusītu	0	0t	0	0t	1	2d0t	0	0t	1	1d2t	3d2t
14.	sūmiṇ	0	0t	0	0t	0	0t	0	0t	0	0t	0t
15.	qunnaw	0	0t	1	3d0t	1	2d0t	1	1d0t	0	0t	6d0t
16.	tunnay	0	0t	0	0t	0	0t	0	0t	0	0t	0t
17.	qumnas	0	0t	0	0t	1	1d6t	0	0t	0	0t	1d6t
18.	baṇanay	0	0t	0	0t	0	0t	0	0t	0	0t	0t
19.	qabiddaw	0	0t	0	0t	0	0t	0	0t	0	0t	0t
20.	bataṇqas	0	0t	0	0t	0	0t	2	1d1t	0	0t	1d1t
21.	siyun	0	0t	0	0t	0	0t	0	0t	0	0t	0t
22.	duṇqāqas	0	0t	0	0t	0	0t	0	0t	0	0t	0t
23.	dināyaw	0	0t	0	0t	0	0t	0	0t	0	0t	0t
24a.	piṇnut	0	0t	0	0t	0	0t	2	1d1t	0	0t	1d1t
24b.	nītu	0	0t	0	0t	1	1d6t	1	5t	0	0t	2d1t
25.	tunnīnu	0	0t	0	0t	0	0t	0	0t	0	0t	0t
26.	paqatpat	0	0t	0	0t	0	0t	0	0t	0	0t	0t
27.	sabin	0	0t	0	0t	0	0t	0	0t	0	0t	0t
28.	bosway	0	0t	0	0t	0	0t	0	0t	0	0t	0t
30.	kampin	0	0t	0	0t	0	0t	0	0t	0	0t	0t
31.	sakki	0	0t	0	0t	0	0t	0	0t	0	0t	0t
32.	[illegible]	0	0t	0	0t	1	2d0t	1	5t	0	0t	2d5t
33.	qualkeq	4	16y5d0t	1	3d0t	0	0t	0	0t	0	0t	16y8d0t
34.	qannamīda	0	0t	0	0t	0	0t	0	0t	0	0t	0t
35.	panyaw	0	0t	0	0t	0	0t	0	0t	0	0t	0t
qapuṇul												
1.	sāwin	0	0t	0	0t	0	0t	3	1d5t	0	0t	1d5t
2.	kalwad	0	0t	0	0t	0	0t	0	0t	0	0t	0t
tumog												
1.	diwqin	0	0t	0	0t	0	0t	1	6t	0	0t	6t
2a.	tukmu	0	0t	1	3d0t	0	0t	0	0t	0	0t	3d0t
2b.	noplop	0	0t	0	0t	0	0t	0	0t	0	0t	0t
3.	tūkin	0	0t	0	0t	0	0t	0	0t	0	0t	0t
total		6	27y0d0t	9	4y5d0t	5	9d2t	15	8d5t	1	1d2t	33y3d9t

Table 46. Baṇtitan Livestock: Total and Average Values of Livestock Slaughtered by Baṇtitan Households
(values in bundled rice, April 1966 - January 1968)

house site number	household head	Apr. 66-May 67 [14 months]	June 67-Nov. 67 [6 months]	Dec. 67-Jan. 68 [2 months]	Apr. 66-Jan. 68 [22 months]	average for 12 months
baṇtitan						
1.	dakyun	1y2d6t	7d1t	5t	2y0d2t	1y1d0t
2.	kāvu	2y2d1t	8d1t	1y1d0t	4y1d2t	2y2d5t
3.	wacāson	16y0d5t	2y2d4t	5y0d0t	23y2d9t	12y7d0t
4.	qaatun	7d0t	1y4d5t	0t	2y1d5t	1y1d7t
5.	qānuy	1d5t	9d3t	6t	1y1d4t	6d2t
8.	dannūway	1d0t	0t	1y1d0t	1y2d0t	6d5t
9.	qoccas	1y1d0t	0t	0t	1y1d0t	6d0t
10.	bakākaw	7y7d5t	1y1d5t	6y9d5t	15y8d5t	8y6d5t
11.	kinnag	17y2d0t	9d0t	6t	18y1d6t	9y9d1t
12.	sinyan	8d0t	0t	0t	8d0t	4d4t
13.	nusītu	2y0d5t	8d1t	3d2t	3y1d8t	1y7d3t
14.	sūmig	0t	0t	0t	0t	0t
15.	qunnaw	1y3d5t	0t	6d0t	1y9d5t	1y0d6t
16.	tunnay[1]	--	0t	0t	0t	?[2]
17.	qunnas	1y0d2t	6y3d5t	1d6t	7y5d3t	4y1d1t
18.	baṇanay	0t	0t	0t	0t	0t
19.	qabiddaw	9y5d0t	2d0t	0t	9y7d0t	5y2d9t
20.	qeway[3]	0t	--	--	--	?[2]
20.	bitaṇgas[4]	--	1d6t	1d1t	2d7t[5]	?[2]
21.	siyun	3y7d7t	0t	0t	3y7d7t	2y0d6t
22.	duṇqīqas	1d0t	0t	0t	1d0t	5t
23.	dināyaw	0t	2y1d2t	0t	2y1d2t	1y1d6t
24a.	piṇnut	10y9d1t	5y1d2t	1d1t	16y1d4t	8y8d0t
24b.	nītu	0t	0t	2d1t	2d1t	1d1t
25.	tunnīnu	1y3d5t	4d5t	0t	1y8d0t	9d8t
26.	paṇatpat	12y0d5t	2d7t	0t	12y3d2t	6y7d2t
27.	sabin	13y3d5t	3d6t	0t	13y7d1t	7y4d8t
28.	bosway	1y9d5t	0t	0t	1y9d5t	1y0d6t
30.	kampin	1y8d5t	9d0t	0t	2y7d5t	1y5d0t
31.	sakki	15y3d0t	6y3d0t	0t	21y6d0t	11y7d9t
32.	salaṇqoy	7d4t	2d0t	2d5t	1y1d9t	6d5t
33.	qanīkog	16y9d5t	3d6t	16y8d0t	34y1d1t	18y6d1t
34.	qannamīda	10y9d0t	1y0d2t	0t	11y9d2t	6y5d0t
35.	panyaw	9y6d0t	2y2d0t	0t	11y7d0t	6y3d9t
qapuṇul						
1.	sāwin	19y8d5t	6d0t	1d5t	20y6d0t	11y2d4t
2.	kalwad	8d5t	3d0t	0t	1y1d5t	6d3t
tumog						
1.	dawqin	8d0t	4d2t	6t	1y2d8t	7d0t
2a.	tukmu	2y0d0t	1y8d7t	3d0t	4y1d7t	2y2d7t
2b.	noplop	3d0t	0t	0t	3d0t	1d0t
3.	tūkis	6y4d5t	6t	0t	6y5d1t	3y5d5t
total		190y2d1t	38y2d6t	33y3d9t	261y8d6t	142y8d3t[6]
number of households[7] (number of persons)		38 (~~153~~ 157)	39 (162)	39 (164)		
average per household		5y0d1t	9d8t	8d6t	6y8d5t[8]	3y9d6t[9]

[1] A childless old woman moved in in April 1967 to set up a household of her own.

[2] "Average" is not given for those households which were not resident in the settlement for the entire 22 months period.

[3] The head of this household, Baṇpuṇan (see Table 45), died in December 1966, and his aged and childless widow, Uway, ~~[illegible]~~ left for her native region, Nobwagan, at the beginning of August 1967.

[4] A couple with a child moved into the vacant house and took up residence in Baṇtitan at the end of August 1967.

[5] Five month total, instead of 22, from September 1967 to January 1968.

[6] Twelve month average derived from the settlement total for 22 months.

[7] Total of the averages in the preceding columns.

[8] The average only for those 36 households which were resident in the settlement for the entire period of 22 months.

[9] Population at the mid-point of each of the three periods: November 1, 1966; September 1, 1967; and January 1, 1968.

Table 49. Bantitan Livestock: Settlement Totals of Slaughtered Livestock
(numbers of animals, values in bundled rice, by general categories)
April 1966 - January 1968[1]

	Apr. 66-May 67 [14 months]			June 67-Nov. 67 [6 months]			Dec. 67-Jan. 68 [2 months]			Apr. 66-Jan. 68 [22 months]			average for 12 months		
	number	value	%	number	value	%	number	value	%	number	value	%	number	value	%
nuwan$_{a.1}$ 'water buffalo'	20	98y0d0t	51.52	2	10y0d0t	26.14	6	27y0d0t	80.86	28	135y0d0t	51.55	15.3	73y6d4t	51.56
bāka$_1$ 'cow'	1	4y0d0t	2.10	0	0t	0.00	0	0t	0.00	1	4y0d0t	1.53	0.5	2y1d8t	1.53
balok$_{a.1}$ 'pig'	125	73y8d0t	38.80	50	22y9d0t	59.85	9	4y5d0t	13.48	184	101y2d0t	38.65	100.4	55y2d0t	38.65
gāsu$_1$ 'dog'	22	4y4d0t	2.31	6	1y2d0t	3.14	5	9d2t	2.76	33	6y5d2t	2.49	18.0	3y5d6t	2.49
manuk$_a$ 'chicken'	191	9y5d3t	5.01	75	4y0d4t	10.56	15	8d5t	2.55	281	14y4d2t	5.51	153.3	7y8d7t	5.51
kāmit$_1$ 'duck'	4	4d8t	0.25	1	1d2t	0.31	1	1d2t	0.36	6	7d2t	0.27	3.3	3d9t	0.27
total		190y2d1t	99.99		38y2d6t	100.00		33y3d9t	100.01		261y8d6t	100.00		142y8d3t[2]	100.01

[1] Bantitan population at the midpoint of each of the three periods: November 1, 1966--38 households, 157 persons; September 1, 1967--39 households, 162 persons; January 1, 1968--39 households, 164 persons.

[2] This represents the average of the totals (which are exact) rather than the total of averages (which are rounded, and therefore inexact).

Table 50. Baṇtitan Livestock: Settlement Totals of Slaughtered 'Water Buffalo' (numbers of animals, values in bundled rice, by specific categories[1]); April 1966 - January 1968

nuwaṇ$_{a.1}$ 'water buffalo'	Apr. 66-May 67 [14 months] number	value	June 67-Nov. 67 [6 months] number	value	Dec. 67-Jan. 68 [2 months] number	value	Apr. 66-Jan. 68 [22 months] number	value	average for 12 months number	value
tūlu 'fully grown water buffalo bull'	0	0t	0	0t	0	0t	0	0t	0.0	0t
kalaṇtaṇan$_a$ 'fully grown water buffalo cow'	0	0t	0	0t	2	11y0d0t	2	11y0d0t	1.1	6y0d0t
paṇabaabbāya 'young water buffalo bull' (maṇgālat tūlu; nāki)	14	69y0d0t	0	0t	1	5y0d0t	15	74y0d0t	8.2	40y3d6t
naṇpāyuṇan 'young water buffalo cow' (paṇina)	5	26y0d0t	2	10y0d0t	1	5y0d0t	8	41y0d0t	4.4	22y3d6t
gayyūbu$_{a.1}$ 'water buffalo calf'	1	3y0d0t	0	0t	2	6y0d0t	3	9y0d0t	1.6	4y9d1t
total	20	98y0d0t	2	10y0d0t	6	27y0d0t	28	135y0d0t	15.3	73y6d8t

[1] Common referential synonyms in parenthesis.

Table 57. Baŋtitan Livestock: Settlement Totals of Slaughtered 'Cow' (numbers of animals, values in bundled rice, by specific categories[1]); April 1966 - January 1968

bāka$_1$ 'cow'	Apr. 66-May 67 [14 months] number	value	June 67-Nov. 67 [6 months] number	value	Dec. 67-Jan. 68 [2 months] number	value	Apr. 66-Jan. 68 [22 months] number	value	average for 12 months number	value
tūlu 'fully grown bull'	0	0t	0	0t	0	0t	0	0t	0.0	0t
kalaŋtaŋan$_a$ 'fully grown cow'	0	0t	0	0t	0	0t	0	0t	0.0	0t
pagabgabbāya 'young bull' (mangālat tūlu; nāki)	0	0t	0	0t	0	0t	0	0t	0.0	0t
napēyuran 'young cow' (pagina)	1	4y0d0t	0	0t	0	0t	1	4y0d0t	0.5	2y1d8t
gayyubu$_{a.1}$ 'calf'	0	0t	0	0t	0	0t	0	0t	0.0	0t
total	1	4y0d0t	0	0t	0	0t	1	4y0d0t	0.5	2y1d8t

[1] Common referential synonyms in parenthesis.

Table 52. Bantitan Livestock: Settlement Totals of Slaughtered 'Pig' (numbers of animals, values in bundled rice, by specific categories[1]); April 1966 - January 1968

	Apr. 66-May 67 [14 months]		June 67-Nov. 67 [6 months]		Dec. 67-Jan. 68 [2 months]		Apr. 66-Jan. 68 [22 months]		average for 12 months	
balok$_{a.1}$ 'pig'	number	value	number	value	number	value	number	value	number	value
mabūtu 'fully grown barrow'	1	4y5d0t	0	0t	0	0t	1	4y5d0t	0.5	2y4d5t
tūmoŋ 'fully grown sow'	1	3y0d0t	0	0t	0	0t	1	3y0d0t	0.5	1y6d4t
nāyas$_a$ 'farrowed sow'	1	1y7d0t	1	1y7d0t	0	0t	2	3y4d0t	1.1	1y8d5t
piddal$_a$ 'young sow'	0	0t	0	0t	1	1y1d0t	1	1y1d0t	0.5	6d0t
gaʼāyan$_a$ 'young pig'	56	44y8d0t	13	10y4d0t	2	1y6d0t	71	56y8d0t	38.7	30y9d8t
pusu 'shoat'	66	19y8d0t	36	10y8d0t	6	1y8d0t	108	32y4d0t	58.9	17y6d7t
total	125	73y8d0t	50	22y9d0t	9	4y5d0t	184	101y2d0t	100.4	55y2d0t

[1] Common referential synonyms in parenthesis.

Table 59. Bantitan Livestock: Settlement Totals of Slaughtered 'Dog' (numbers of animals, values in bundled rice, by specific categories); April 1966 - January 1968

gāsu$_{a.1}$ 'dog'	Apr. 66-May 67 [14 months] number	value	June 67-Nov. 67 [6 months] number	value	Dec. 67-Jan. 68 [2 months] number	value	Apr. 66-Jan. 68 [22 months] number	value	average for 12 months number	value
nāki 'dog'	22	4y4d0t	6	1y2d0t	3	6d0t	31	6y2d0t	16.9	3y3d8t
pagina 'bitch'	0	0t	0	0t	0	0t	0	0t	0.0	0t
napug 'young dog'	0	0t	0	0t	2	3d2t	2	3d2t	1.1	1d7t
gūkon 'puppy'	0	0t	0	0t	0	0t	0	0t	0.0	0t
total	22	4y4d0t	6	1y2d0t	5	9d2t	33	6y5d2t	18.0	3y5d6t

Table 54. Baŋtitan Livestock: Settlement Totals of Slaughtered 'Chicken' (numbers of animals, values in bundled rice, by specific categories); April 1966 - January 1968

manuk$_a$ 'chicken'	Apr. 66-May 67 [14 months] number	value	June 67-Nov. 67 [6 months] number	value	Dec. 67-Jan. 68 [2 months] number	value	Apr. 66-Jan. 68 [22 months] number	value	average for 12 months number	value
kawannuŋ 'large cock'	0	0t	1	1d0t	1	1d0t	2	2d0t	1.1	1d1t
kawītan$_{a.2}$ 'cock'	2	1d2t	14	8d4t	2	1d2t	18	1y0d9t	9.8	5d9t
gaŋŋak$_a$ 'hen'	0	0t	10	6d0t	3	1d8t	13	7d8t	7.1	4d3t
magasōlog 'cockerel'	186	9y3d0t	40	2y0d0t	8	4d0t	234	11y7d0t	127.6	6y3d8t
mamalāsaŋ 'pullet'	2	1d0t	10	5d0t	1	5t	13	6d5t	7.1	3d5t
gisiw$_{a.1}$ 'chick'	1	1t	0	0t	0	0t	1	1t	0.5	1t
total	191	9y5d3t	75	4y0d4t	15	8d5t	281	14y4d2t	153.3	7y8d7t

Table 55. Baŋtitan Livestock: Outstanding Livestock Debts (values in bundled rice, numbers of animals, by household), as of October 1967

house site number	house-hold head	nuwaŋ$_{a.1}$ 'water buffalo' value No.	balok$_{a.1}$ 'pig' value No.	manuk$_{a}$ 'chicken' value No.	kāmit$_{1}$ 'duck' value No.	total value
baŋtitan						
1.	dakyun	0t(0)	0t(0)	0t(0)	0t(0)	0t
2.	kāyu	0t(0)	0t(0)	0t(0)	0t(0)	0t
3.	wagāson	0t(0)	0t(0)	1d2t(2)	0t(0)	1d2t
4.	qantun	0t(0)	2d0t(1)	0t(0)	0t(0)	2d0t
5.	qānuy	0t(0)	3d0t(1)	0t(0)	0t(0)	3d0t
8.	dannūway	0t(0)	0t(0)	0t(0)	0t(0)	0t
9.	qoggas	0t(0)	0t(0)	0t(0)	0t(0)	0t
10.	bakākaw	7y5d0t(2)	1y1d0t(1)	0t(0)	0t(0)	8y6d0t
11.	kinnag	0t(0)	1y3d0t(3)	5t(1)	0t(0)	1y3d5t
12.	sinyaŋ	0t(0)	0t(0)	0t(0)	0t(0)	0t
13.	nusītu	5y5d0t(1)	1y1d0t(1)	1d0t(1)	0t(0)	6y7d0t
14.	sūmiŋ	0t(0)	0t(0)	0t(0)	0t(0)	0t
15.	gunnaw	0t(0)	2d0t(1)	1d0t(2)	0t(0)	3d0t
16.	tunnay	0t(0)	0t(0)	0t(0)	0t(0)	0t
17.	qumnas	0t(0)	2d0t(1)	0t(0)	0t(0)	2d0t
18.	baŋānay	0t(0)	0t(0)	0t(0)	0t(0)	0t
19.	qabiddaw	3y5d0t(1)	3d0t(1)	6t(1)	0t(0)	3y8d6t
20.	bataŋgas	0t(0)	0t(0)	1d5t(3)	0t(0)	1d5t
21.	siyun	0t(0)	8d0t(1)	0t(0)	0t(0)	8d0t
22.	duŋgāqas	0t(0)	0t(0)	0t(0)	0t(0)	0t
23.	dinayaw	0t(0)	0t(0)	6t(1)	0t(0)	6t
24a.	piŋnut	0t(0)	0t(0)	0t(0)	0t(0)	0t
24b.	nītu	0t(0)	3d0t(1)	6t(1)	0t(0)	3d6t
25.	tunnīnu	0t(0)	0t(0)	0t(0)	0t(0)	0t
26.	pagatpat	0t(0)	3d0t(1)	3d6t(5)	0t(0)	6d0t
27.	sabin	0t(0)	0t(0)	0t(0)	0t(0)	0t
28.	bosway	0t(0)	0t(0)	5t(1)	0t(0)	5t
30.	kampin	0t(0)	0t(0)	4t(1)	0t(0)	4t
31.	sakki	0t(0)	3d0t(1)	0t(0)	0t(0)	3d0t
32.	salaŋqoy	0t(0)	8d0t(1)	6t(1)	0t(0)	8d6t
33.	qanīkog	0t(0)	0t(0)	6t(1)	0t(0)	6t
34.	qannamīda	4y5d0t(1)	1y9d0t(2)	1d0t(2)	0t(0)	6y5d0t
35.	panyaw	3y5d0t(1)	0t(0)	1d0t(1)	1d2t(1)	3y7d2t
qapuŋul						
1.	sāwin	0t(0)	0t(0)	0t(0)	0t(0)	0t
2.	kalwad	5y0d0t(1)	0t(0)	5t(1)	0t(0)	5y0d5t
tumog						
1.	dawqin	5y0d0t(1)	8d0t(1)	0t(0)	0t(0)	5y8d0t
2a.	tukmu	0t(0)	1y1d0t(1)	0t(0)	0t(0)	1y1d0t
2b.	noplop	0t(0)	0t(0)	0t(0)	0t(0)	0t
3.	tūkis	0t(0)	0t(0)	0t(0)	0t(0)	0t
total		34y5d0t(8)	11y0d0t(25)	1y5d2t(19)	1d2t(1)	47y1d4t

Table 56. Bantitan Livestock: Livestock Acquired by Bantitan Households (numbers of animals, values in bundled rice, by general categories), 1967

	nuwan$_{a.1}$ 'water buffalo'		balok$_{a.1}$ 'pig'		gāsu$_{a.1}$ 'dog'		manuk$_{a}$ 'chicken'		kāmit$_{1}$ 'duck'		total
	number	value	number	value	number	value	number	value	number	value	value
bantitan											
1. dakyun	0	0t	1	3y0d0t	0	0t	0	0t	0	0t	3y0d0t
2. kāyu	0	0t	0	0t	0	0t	0	0t	0	0t	0t
3. wagāson	1	5y5d0t	5	1y6d0t	0	0t	5	2d9t	1	4t	7y4d3t
4. gantun	0	0t	2	4d0t	0	0t	1	5t	0	0t	4d5t
5. gamuy	0	0t	0	0t	0	0t	5	2d9t	0	0t	2d9t
8. dannuway	0	0t	1	2d0t	0	0t	2	1d1t	0	0t	3d1t
9. qoccas	0	0t	0	0t	0	0t	0	0t	0	0t	0t
10. bokākaw	1	3y5d0t	4	2y0d0t	0	0t	2	1d1t	0	0t	5y6d1t
11. kinnig	1	5y5d0t	1	1y6d0t	0	0t	0	0t	0	0t	7y1d0t
12. sinyan	0	0t	0	0t	0	0t	0	0t	1	2t	2t
13. nugitu	0	0t	2	4d0t	1	2d0t	22	1y4d0t	0	0t	2y0d0t
14. sānig	0	0t	0	0t	0	0t	0	0t	1	2t	2t
15. gunnaw	0	0t	3	1y8d0t	0	0t	3	1d7t	0	0t	1y9d7t
16. tunnay	0	0t	0	0t	0	0t	0	0t	0	0t	0t
17. gumas	1	4y0d0t	9	1y8d0t	0	0t	3	1d8t	0	0t	5y9d8t
18. batanay	0	0t	0	0t	0	0t	1	6t	0	0t	6t
19. qabiddaw	0	0t	3	6d0t	0	0t	0	0t	0	0t	6d0t
20. quway[1]	0	0t	0	0t	0	0t	0	0t	0	0t	0t
20. bataqas[2]	0	0t	0	0t	0	0t	1	1d0t	1	4t	1d4t
21. siyun	0	0t	0	0t	0	0t	0	0t	0	0t	0t
22. dungāqas	0	0t	0	0t	0	0t	0	0t	0	0t	0t
23. dināyaw	0	0t	0	0t	0	0t	0	0t	0	0t	0t
24a. pinut	0	0t	5	4y2d0t	1	2d0t	2	1d2t	0	0t	4y5d2t
24b. nītu	0	0t	6	4y8d0t	1	2d0t	5	2d7t	0	0t	5y2d7t
25. tunaīnu	0	0t	3	6d0t	0	0t	1	6t	0	0t	6d6t
26. pagatpat	1	4y0d0t	0	0t	0	0t	1	5t	0	0t	4y0d5t
27. sabin	0	0t	2	4d0t	0	0t	1	5t	0	0t	4d5t
28. bosway	0	0t	2	1y0d0t	0	0t	0	0t	0	0t	1y0d0t
30. kumpin	0	0t	3	1y8d0t	0	0t	0	0t	0	0t	1y8d0t
31. sukki	1	3y0d0t	2	1y0d0t	0	0t	2	1d1t	0	0t	4y1d1t
32. salaqoy	0	0t	1	2d0t	2	4d0t	3	1d5t	0	0t	7d5t
33. qanīkog	0	0t	3	2y0d0t	0	0t	0	0t	0	0t	2y0d0t
34. qannanīda	0	0t	3	2y4d0t	0	0t	0	0t	0	0t	2y4d0t
35. panyaw	1	5y5d0t	2	1y0d0t	0	0t	1	5t	0	0t	6y5d5t
qapuqul											
1. sāwin	0	0t	0	0t	0	0t	0	0t	0	0t	0t
2. kalwad	0	0t	2	4d0t	1	2d0t	1	6t	0	0t	6d6t
tumog											
1. dawqin	0	0t	0	0t	0	0t	0	0t	0	0t	0t
2a. tukmu	0	0t	0	0t	0	0t	0	0t	0	0t	0t
2b. noplop	0	0t	0	0t	0	0t	0	0t	0	0t	0t
3. tūkis	1	5y5d0t	1	1y0d0t	0	0t	0	0t	0	0t	6y5d0t
total	8	36y5d0t	66	34y2d0t	6	1y2d0t	62	3y6d8t	4	1d2t	75y7d0t

[1] Moved out of the settlement at the beginning of August. The zero value refers to the absence of livestock transaction by the household prior to its departure in 1967.

[2] Moved in at the end of August. Transactions shown took place during September-December 1967.

Table 57. Bantitan Livestock: Livestock Dispensed by Bantitan Households (numbers of animals, values in bundled rice, by general categories), 1967

	nuwan$_{a.1}$ 'water buffalo'		balok$_{a.1}$ 'pig'		qāsu$_{a.1}$ 'dog'		manuk$_{a}$ 'chicken'		kāmit$_{1}$ 'duck'		total
	number	value	number	value	number	value	number	value	number	value	value
bantitan											
1. dakyun	4	20y0d0t	0	0t	0	0t	0	0t	0	0t	20y0d0t
2. kāyu	0	0t	2	4d0t	0	0t	0	0t	0	0t	4d0t
3. waqāson	0	0t	0	0t	0	0t	0	0t	0	0t	0t
4. qantun	0	0t	2	4d0t	0	0t	0	0t	0	0t	4d0t
5. qanuy	0	0t	1	2d0t	0	0t	0	0t	0	0t	2d0t
8. dannuway	0	0t	0	0t	0	0t	0	0t	0	0t	0t
9. qasqas	0	0t	0	0t	0	0t	0	0t	0	0t	0t
10. bakākaw	4	20y0d0t	0	0t	0	0t	1	6t	0	0t	20y0d6t
11. kannag	0	0t	5	2y8d0t	0	0t	0	0t	0	0t	2y8d0t
12. sinyag	0	0t	3	1y4d0t	0	0t	0	0t	0	0t	1y4d0t
13. nusitu	0	0t	5	1y9d0t	0	0t	2	1d0t	0	0t	1y9d0t
14. sūnig	0	0t	3	1y7d0t	0	0t	2	1d1t	0	0t	1y3d1t
15. qunnaw	0	0t	0	0t	0	0t	0	0t	0	0t	0t
16. tunnay	0	0t	0	0t	0	0t	0	0t	0	0t	0t
17. qunnas	0	0t	2	1y0d0t	0	0t	1	6t	0	0t	1y0d6t
18. kananay	0	0t	0	0t	0	0t	0	0t	0	0t	0t
19. qibidqaw	0	0t	2	4d0t	0	0t	6	3d2t	0	0t	7d2t
20. qaway[1]	0	0t	0	0t	0	0t	0	0t	0	0t	0t
20. bataqas[2]	0	0t	0	0t	0	0t	4	2d2t	1	5t	2d7t
21. siyun	0	0t	1	8d0t	0	0t	1	6t	3	2d2t	1y[illegible]d8t
22. dusqāqas	0	0t	0	0t	0	0t	0	0t	0	0t	0t
23. dinīyaw	0	0t	0	0t	0	0t	2	1d1t	0	0t	1d1t
24a. pisnut	0	0t	0	0t	1	2d0t	3	1d7t	0	0t	3d7t
24b. nitu	0	0t	5	1y8d0t	1	2d0t	1	5t	0	0t	2y0d5t
25. tunnīnu	1	4y0d0t	2	4d0t	0	0t	0	0t	0	0t	4y4d0t
26. pinatpat	0	0t	0	0t	0	0t	11	6d8t	0	0t	6d8t
27. sabin	0	0t	3	1y4d0t	0	0t	0	0t	0	0t	1y4d0t
28. bosway	0	0t	0	0t	1	2d0t	1	5t	0	0t	2d5t
29. kempin	0	0t	0	0t	0	0t	0	0t	0	0t	0t
31. sakki	0	0t	2	4d0t	0	0t	4	2d0t	0	0t	6d0t
32. salaqoy	0	0t	3	1y2d0t	0	0t	1	5t	0	0t	1y2d5t
33. qanīkog	0	0t	2	4d0t	0	0t	0	0t	0	0t	4d0t
34. qannanīda	0	0t	1	8d0t	0	0t	3	1d7t	0	0t	9d7t
35. panyaw	0	0t	3	6d0t	1	2d0t	1	6t	1	1d2t	9d8t
qapuqul											
1. sīwin	0	0t	0	0t	0	0t	5	2d5t	0	0t	2d5t
2. kalwad	0	0t	0	0t	0	0t	7	3d9t	0	0t	3d9t
tunog											
1. dawqin	1	5y0d0t	4	3y8d0t	0	0t	1	5t	0	0t	8y8d5t
2a. tukau	1	5y5d0t	2	1y8d0t	0	0t	3	1d7t	0	0t	7y4d7t
2b. neplop	0	0t	0	0t	0	0t	1	6t	0	0t	6t
3. tūkis	0	0t	0	0t	0	0t	2	6t	0	0t	6t
total	11	54y5d0t	53	23y0d0t	4	8d0t	63	3y4d5t	5	3d9t	82y1d4t

[1] Moved out of the settlement at the beginning of August. The zero value refers to the absence of livestock transaction by the household prior to its departure in 1967.

[2] Moved in at the end of August. Transactions shown took place during September-December 1967.

Table 58. Bantitan Livestock: Settlement Totals of Livestock Transacted by Bantitan Households (values in bundled rice, number of animals, by general categories), 1967

	nuwan$_{a.1}$ 'water buffalo'	balok$_{a.1}$ 'pig'	gäsu$_{a.1}$ 'dog'	manuk$_{a}$ 'chicken'	kämit$_{1}$ 'duck'	Total
	value (number)	value (number)	value (number)	value (number)	value (number)	value (number)
household acquisition settlement totals[1]	36y5d0t (8)	34y2d0t (66)	1y2d0t (6)	3y6d8t (62)	1d2t (4)	75y7d0t (146)
from Bantitan households	14y0d0t (3)	14y8d0t (41)	6d0t (3)	2y4d2t (45)	0t (0)	31y8d2t (92)
from non-Bantitan sources	22y5d0t (5)	19y4d0t (25)	6d0t (3)	1y2d6t (17)	1d2t (4)	43y8d8t (54)
in Ūma	17y0d0t (4)	18y4d0t (21)	2d0t (1)	1y1d5t (15)	1d2t (4)	36y8d7t (45)
outside Ūma	5y5d0t (1)	1y0d0t (4)	4d0t (2)	1d1t (2)	0t (0)	7y0d1t (9)
household dispensation settlement totals[2]	54y5d0t (11)	23y0d0t (53)	8d0t (4)	3y4d5t (63)	3d9t (5)	82y1d4t (136)
to Bantitan households	14y0d0t (3)	14y8d0t (41)	6d0t (3)	2y4d2t (45)	0t (0)	31y8d2t (92)
to non-Bantitan sources	40y5d0t (8)	8y2d0t (12)	2d0t (1)	1y0d3t (18)	3d9t (5)	50y3d2t (44)
in Ūma	40y5d0t (8)	7y2d0t (10)	2d0t (1)	9d3t (16)	3d9t (5)	49y2d2t (40)
outside Ūma	0t (0)	1y0d0t (2)	0t (0)	1d0t (2)	0t (0)	1y1d0t (4)
settlement totals of livestock transacted[3] by Bantitan households	77y0d0t (16)	42y4d0t (78)	1y4d0t (7)	4y7d1t (80)	5d1t (9)	126y0d0t (190)

[1] Compare with Table 56 .

[2] Compare with Table 57 .

[3] The settlement total of livestock acquisition from non-Bantitan sources, plus that of livestock dispensation to non-Bantitan sources, plus that of livestock transacted within Bantitan.

Table 59: Estimate of the "Natural Increase" of Livestock

Any interpretation of the ecological implications of ganu 'prescribed livestock slaughter' is better if an accurate assessment of the natural increase of livestock can be made. Such an assessment is needed to evaluate the livestock holdings and transactions of individual households. However, a precise measurement of the "natural increase" of livestock is impossible because the increase is controlled by slaughter. I have attempted to approximate this increase on the basis of my observations in Ūma rather than to use an estimate hazarded from the livestock growth records elsewhere. The approximation helps us better understand that aspect of performance which involves livestock. A few of the major problems involved in my estimate, and the methods used, will be discussed below.

First, there is a problem of samples. According to the data (see Tables 45-49), Ūma residents often slaughter young animals. Since they carefully select the healthiest individuals for further growth, the growth and reproduction of the surviving ones is not typical of those animals chosen for slaughter. There are very few older animals in the sample because the majority of pigs and chickens are slaughtered in youth. The average growth rate of nāyas$_a$ 'farrowed sow' or mamalu$_a$ 'young barrow', for example, can hardly be measured with accuracy because they are few in number and the same individuals are not around long. In some cases, I had to accept as the "average" growth rate and reproduction rate the

performance of only a few individuals in any specific category. Second, one would expect a significant reduction in the growth of livestock anytime the total number exceeds the usual holding by Ūma farmers because then the feeding and caring, and other factors could not be the same.

I made my observation of as many sample individuals of each specific category as was feasible (the actual number of the samples varying between different kinds of livestock and between specific categories of a single kind) and proceeded with my estimate, assuming that the total settlement holding of livestock at one point in time would increase for one year constantly at the same rate as observed in the sample. Space does not permit a presentation here of a complete report of the exact procedures I employed for the estimate (e.g., the number of samples for each case, methods of measuring, and the varying margin of error I intuit for each specific category of each kind of livestock). To indicate the methods used as well as the problems involved, I will briefly discuss how I arrived at the estimate of the "natural increase" of pigs in Ūma.

First, I determined the "average" of (1) the age of sows at their first successful farrowing, (2) the reproduction rate thereafter, and (3) the growth rate of individuals in each specific category such as nukon 'piglets' and pusu 'shoats'. Second, I referred to my census of each individual animal in October 1967. On the basis of the determined average, I estimated the size, and hence worth, of each animal as well as that of its offspring twelve months after the date of the census.

Sows at the beginning of farrowing. More than two dozen individuals were observed at different times. The youngest primipara was 13 months of age. The average age of the primiparae which successfully farrowed and nursed their offspring for the first time was 19 months. Individual sows greatly varied in age at first apparent pregnancy, in success of first farrowing, and in performance as mothers. The first farrowing of a sow was unsuccessful in more than one half of the observed cases. Miscarriages and stillbirths were not unusual. Moreover, when infants were born alive, some mothers rejected them, ate them, or crushed them. Even when the primiparous mother sow was apparently tending her infants, their mortality in the first few weeks was much higher than in subsequent litters. Some young sows which did not impress their keepers by their reproductive performance were slaughtered as the occasion arose. The average age at first farrowing was obtained for those sows which did survive.

Reproduction rate. Only seven sows were observed including the young primiparous sows. I also recorded information about the older ones, past farrowings, and number of surviving piglets. Individual sows greatly vary in their reproduction. A few sows farrowed as often as three times in two years. Others far less frequently. The 27 cases of farrowing observed or recorded showed that in average a sow farrows once a year. The number of piglets which survived and became 'shoats' (pusu) of four to five months of age also varied from litter to litter -- the average was about four

per litter. The natural mortality rate after this age is almost impossible to determine because of the selective factor involved in the slaughter of a large proportion of 'shoats' five months or older. For the purpose of my estimate, four 'shoats' per litter are assumed to survive.

Growth rate. The typical rate at which pigs grow within each specific category and from one category to another is used as a basis for the computation. Thus, for instance, a one-month-old 'piglet' (nukon) weighing around 3 kg is assumed to become after one year a 'shoat' (gamāyan$_a$) of 13 months of age whose weight is around 22 kg. The estimated size of an animal may be used to approximate its customary value.

We shall take a few examples from the 1967 census and estimate what they would be after one year if barred from slaughter. A female 'shoat' (gamāyan$_a$), 8 months old and weighing about 17 kg at the time of the census, would be a 'young sow' (piddal$_a$) in her 21st month, weighing close to 30 kg. Her value would increase from 5 dālan and 5 qītiŋ to 1 qūyon. In addition, she would have her offspring: four one-month-old 'piglets' (nukon), together weighing about 14 kg and valued as about 2 dālan. A male 'shoat' (gamāyan$_a$), which is 10 months old and weighs a little over 18 kg, would become a 'young barrow' (mamalu$_a$) of 22 months of age. He would weigh about 32 or 33 kg and be evaluated as 1 qūyon or 2 dālan. An 18-month-old 'young sow' (piddal$_a$), pregnant and valued around 1 qūyon at the time of the census, would become a 30-

month-old 'farrowed sow' (nāyas$_a$), valued as 1 qūyon and 4 dālan. She would also have the offspring: four 'shoats' (gamāyan$_a$) of 11 months of age, each worth 7 dālan.

The estimated increase of these three samples may be summarized as:

Recorded in October, 1967		Estimate for October, 1968
1 gamāyan$_a$ (female; 8 months; 5d5t)	→	1 piddal$_a$ (20 months; 1y0d) plus 4 nukon (1 month; 2d)
1 gamāyan$_a$ (male, 10 months, 6d0t)	→	1 mamalu$_a$ (22 months; 1y2d)
1 piddal$_a$ (pregnant; 18 months; 1y0d0t)	→	1 nāyas (30 months; 1y4d0t) plus 4 gamāyan$_a$ (11 months; 2y8d0t)

Following this procedure, I have estimated the one-year increase of the total pig population censused in October 1967, and the table below presents the results of this estimate.

Table 59. Baŋtitan Livestock:
Estimated "Natural Increase" of Baŋtitan-Owned 'Pigs'
(numbers of animals, values in bundled rice, by specific categories)

	Recorded in October 1967		Estimated for October 1968	
balok$_{a.1}$ 'pig'	number	value	number	value
mabūtu 'fully grown barrow'	1	4y5d0t	1.0	4y5d0t
tūmoŋ 'fully grown sow'	1	3y0d0t	1.5	4y5d0t
mamalu$_a$ 'young barrow' (nāyasa nāki)	0	0t	14.8	29y6d0t
nāyas$_a$ 'farrowed sow'	5	8y5d0t	18.5	31y4d0t
piddal$_a$ 'young sow'	13	14y3d0t	27.2	29y9d2t
gamāyan$_a$ 'young pig'	5	4y0d0t	18.0	14y4d0t
pusu 'shoat'	6	1y8d0t	22.0	6y6d0t
nukon 'piglet'	24	4y8d0t	44.8	8y9d6t
total	55	40y9d0t	147.8	129y8d8t

Tables 60 ~ 67: Magnitudes and Forms of Material Flows

The tables indicate the volumes of goods that change hands within a given period of time as well as the form which those transactions take.

The first four tables, Tables 60-63, summarize the transactions in rice and livestock, two major forms of liquid assets in the society, which Bantitan households engaged in for the period of one year. Individual households formed reference points in the survey from which these tables draw their data (see Tables 32-33 As noted earlier, I attempted to focus on that one year corresponding to the successive consumption period of the 1966 wet-season rice crop and the 1967 dry-season rice crop. That I have been unable to process livestock transaction data for 1966 has resulted in a discrepancy of one month, that is, the livestock transaction data used for the tables cover twelve months from January to December, 1967, instead of December 1966 ~ November 1967.

Unlike frequently and regularly transacted goods, such as rice and livestock, the assessment of the volume and frequency of transactions in valued capital goods requires records over considerable span of time. Detailed survey on an extended scale was not feasible because of the time it would cost in order to cross-check and verify verbal information on each

transaction. In the absence of more exhaustive assessment, comparable to transactions in rice and livestock, the last three tables display limited but suggestive data on the magnitudes of transactions in capital goods.

The reference points in the last of the three tables are not Baŋtitan households, but individual rice-fields of dapat Nos. 13-27. As a way of approximating the relative magnitudes of transaction in the important form of capital assets in the society, and of examining the frequency and forms of title transfer, I chose to focus on a given set of rice-fields. The fields owned by Baŋtitan households would not provide a suitable universe when all forms of title transfer are considered. Not only does the universe not remain constant through time as residents change, but also such a common form of title transfer as inheritance at marriage not infrequently coincides with the residence change of individuals.

Table 60. Magnitudes and Forms of Material Flow: Rice Acquisition by Baptitan Households (settlement totals), 1966-1967[1]

categories of acquisition forms / goods relinquished in exchange	December 1966 - May 1967[2] amounts in kg	December 1966 - May 1967[2] %	June - November 1967[3] amounts in kg	June - November 1967[3] %	one year total amounts in kg	one year total %
[illegible] 1.1 'intercategory exchange'	1768.35	69.09	1300.00	74.17	3068.35	71.15
[illegible] 'sugarcane wine exchange'	82.50	4.67	237.00	18.23	319.50	10.41
[illegible] 'sweet-potato exchange'	0	0	36.50	2.81	36.50	1.19
[illegible] 'rice purchase'	1593.15	90.09	702.70	54.05	2295.85	74.82
goods relinquished in exchange:						
[illegible] 'livestock'	184.05	11.55	128.80	18.33	312.85	13.63
[illegible] 'cash'	1155.90	72.55	573.90	81.67	1729.80	75.34
[illegible] 'cash borrowed on interest-free loan'	253.20	15.89	0	0	253.20	11.03
	1593.15	99.99	702.70	100.00	2295.85	100.00
[illegible] 1.2 'unspecified intercategory exchange'	92.70	5.24	323.80	24.91	416.50	13.57
goods for exchange:						
[illegible] 'livestock'	0	0	3.60	1.11	3.60	0.86
[illegible] 'dried beans'	0	0	33.00	10.19	33.00	7.92
[illegible] 'flesh of dead animal'	0	0	15.00	4.63	15.00	3.60
[illegible] 'green vegetables'	0	0	11.00	3.40	11.00	2.64
[illegible] 'banana'	0.60	0.65	1.20	0.37	1.80	0.43
[illegible] 'tobacco'	0	0	45.00	13.90	45.00	10.80
[illegible] 'coffee beans'	0	0	11.40	3.52	11.40	2.74
other goods of their own	0	0	22.10	6.83	22.10	5.31
goods acquired in Nobwagan for 'exchange' in Una	92.10	99.35	181.50	56.05	273.60	65.69
	92.70	100.00	323.80	100.00	416.50	99.99
	1768.35	100.00	1300.00	100.00	3068.35	99.99
[illegible] 1.1 'earning for labor'	203.25	7.94	146.10	8.34	349.35	8.10
[illegible] 'gift'	7.50	0.27	142.20	8.11	149.70	3.47
[illegible] 'help'	7.50	100.00	109.50	77.00	117.00	78.16
[illegible] 'unspecified gift'	0	0	32.70	23.00	32.70	21.84
	7.50	100.00	142.20	100.00	149.70	100.00
[illegible] 2 'interest-free loan of consumables'	373.50	14.59	53.70	3.06	427.20	9.91
[illegible] 'balanced replacement of consumables loan'	207.00	8.09	110.70	6.32	317.70	9.36
Total Acquisition	2559.60	100.00	1752.70	100.00	4312.30	100.00
(Total Number of Transactions)	(95)		(285)		(380)	

[1] See Table :- Baptitan Rice: Rice Acquisition and Dispensation, 1966-1967.

[2] The wet-season crop harvested in November 1966 makes up the majority of rice transacted in the six month period, December 1966 -May 1967.

[3] The dry-season crop harvested in May 1967 makes up the majority of rice transacted in the six month period, June - November 1967.

Table 61. Magnitudes and Forms of Material Flows: Rice Dispensation by Dapitan Households (settlement totals), 1966-1967[1]

categories of dispensation forms (goods acquired in exchange	December 1966 - May 1967[2] amounts in kg	%	June - November 1967[3] amounts in kg	%	one year total amounts in kg	%
rīna$_{a.1}$ 'intercategory exchange'	752.25	67.37	1632.45	72.09	2384.70	70.53
tanīr 'sugarcane wine exchange'	45.00	5.98	210.00	12.86	255.00	10.69
[illegible] 'sweet-potato exchange'	0	0	37.80	2.32	37.80	1.59
[illegible] 'rice purchase'	195.00	25.92	378.90	23.21	573.90	24.07
rīna$_{a.2}$ 'unspecified intercategory exchange'	512.25	68.10	1005.75	61.61	1518.00	63.66
(goods acquired in exchange:						
[illegible] 'heirlooms'	10.50	2.05	10.80	1.07	21.30	1.40
[illegible] 'livestock'	10.50	2.05	149.70	14.88	160.20	10.55
[illegible] 'dried beans'	7.50	1.46	45.60	4.53	53.10	3.50
[illegible] 'commercial clothing'	0	0	2.10	0.21	2.10	0.14
[illegible] 'sugar'	64.20	12.53	137.10	13.63	201.30	13.26
[illegible] 'salt'	26.40	5.15	51.60	5.13	78.00	5.14
[illegible] 'tinned fish'	46.05	8.99	55.80	5.55	101.85	6.71
[illegible] 'dried fish'	12.30	2.40	11.70	1.16	24.00	1.58
[illegible] 'flesh of dead animal'	45.00	8.78	108.75	10.81	153.75	10.13
[illegible] 'green vegetables'	0	0	8.40	0.84	8.40	0.55
[illegible] 'commercial lard'	14.70	2.87	13.80	1.37	28.50	1.88
[illegible] 'fish sauce'	0	0	1.80	0.18	1.80	0.12
[illegible] 'bread' and [illegible] 'cookies'	0	0	7.50	0.75	7.50	0.49
[illegible] 'banana'	0.60	0.12	1.20	0.12	1.80	0.12
[illegible] 'coconut'	0	0	9.30	0.92	9.30	0.61
[illegible] 'cake soap' and [illegible] 'powder soap'	25.80	5.04	18.00	1.79	43.80	2.89
[illegible] 'matches'	6.60	1.29	5.70	0.57	12.30	0.81
[illegible] 'kerosene'	8.10	1.58	7.50	0.75	15.60	1.03
[illegible] 'earthen pot'	6.60	1.29	57.60	5.73	64.20	4.23
[illegible] 'tobacco'	23.10	4.51	101.70	10.11	124.80	8.22
[illegible] 'coffee beans'	0	0	3.60	0.36	3.60	0.24
[illegible] 'cash'	186.30	36.37	161.40	16.05	347.70	22.91
[illegible] 'others'	18.00	3.51	35.10	3.49	53.10	3.50
	512.25	99.99	1005.75	100.00	1518.00	100.01
	752.25	100.00	1632.45	100.00	2384.70	100.01
[illegible] 'wage earning for labor'	204.00	18.27	335.75	14.83	539.75	15.96
[illegible] 'gift'	13.20	1.18	151.95	6.71	165.15	4.88
[illegible] 'help'	10.50	79.55	126.00	82.92	136.50	82.65
[illegible]$_2$ 'unspecified gift'	2.70	20.45	25.95	17.08	28.65	17.35
	13.20	100.00	151.95	100.00	165.15	100.00
[illegible] 'interest-free loan of consumables'	61.60	5.52	59.70	2.64	121.30	3.59
[illegible] 'balanced replacement of consumables loan'	85.50	7.66	84.60	3.74	170.10	5.03
Total Dispensation (Total Number of Transactions)	1116.55 (255)	100.00	2264.45 (535)	100.01	3381.00 (830)	99.94

[1] See Table :-Dapitan Rice: Rice Acquisition and Dispensation, 1966-1967.

[2] The wet-season crop harvested in November 1966 makes up the majority of rice transacted in the six month period, December 1966 - May 1967.

[3] The dry-season crop harvested in May 1967 makes up the majority of rice transacted in the six month period, June - November 1967.

Table 62. Magnitudes and Forms of Material Flows: Livestock Acquisition by Bantitan Households (settlement totals of values in bundled rice, and number of animals), 1967[1]

categories of acquisition forms	nuwar$_{a.1}$ 'water buffalo' value number	balok$_{a.1}$ 'pig' value number	gānu$_{a.1}$ 'dog' value number	manuk$_{a}$ 'chicken' value number	kāmit$_{1}$ 'duck' value number	total category totals value		%
[illegible]$_{a.1}$ 'exchange'	15y0d0t (3)	15y6d0t (31)	1y2d0t (6)	2y7d9t (46)	1d2t (4)		34y7d1t	45.85
[illegible]$_{a.1}$ 'intercategory exchange'	15y0d0t (3)	11y2d0t (27)	1y2d0t (6)	1y7d7t (31)	1d2t (4)	29y2d9t		84.38
[illegible]$_{a.1}$ 'sale of valued capital goods'	0t (0)	0t (0)	0t (0)	0t (0)	0t (0)	0t		0
[illegible] 'lumber exchange'	4y0d0t (1)	2y4d0t (3)	2d0t (1)	0t (0)	0t (0)	6y6d0t		22.53
[illegible] 'sugarcane wine exchange'	0t (0)	8d0t (4)	2d0t (1)	6t (1)	0t (0)	1y0d6t		3.62
[illegible] 'rice purchase'	0t (0)	4y0d0t (10)	2d0t (1)	5d5t (10)	2t (1)	4y7d7t		16.29
[illegible]$_{a.2}$ 'unspecified inter-category exchange'	11y0d0t (2)	4y0d0t (10)	6d0t (3)	1y1d6t (20)	1d0t (3)	16y8d6t		57.56
						29y2d9t		100.00
[illegible]$_{a.2}$ 'intracategory exchange'	0t (0)	4y4d0t (4)	0t (0)	1y0d2t (15)	0t (0)		5y4d2t	15.62
[illegible] 'one-for-one livestock exchange'	0t (0)	4y4d0t (4)	0t (0)	2d5t (3)	0t (0)	4y6d5t		85.79
[illegible] 'one-for-many livestock exchange'	0t (0)	0t (0)	0t (0)	7d7t (12)	0t (0)	7d7t		14.21
						5y4d2t		100.00
							34y7d1t	100.00
[illegible]$_{a.1}$ 'earning for labor'	0t (0)	1y2d0t (3)	0t (0)	1d1t (2)	0t (0)		1y3d1t	1.73
[illegible]$_{a.2}$ 'non-wage earning for labor'	0t (0)	1y0d0t (2)	0t (0)	0t (0)	0t (0)	1y0d0t		76.30
[illegible] 'wage earning for labor'	0t (0)	2d0t (1)	0t (0)	1d1t (2)	0t (0)	3d1t		23.70
						1y3d1t		100.00
[illegible]$_{1}$ 'gift'	0t (0)	0t (0)	0t (0)	0t (0)	0t (0)		0t	0
[illegible] 'help'	0t (0)	0t (0)	0t (0)	0t (0)	0t (0)	0t		0
[illegible] 'mortuary gift'	0t (0)	0t (0)	0t (0)	0t (0)	0t (0)	0t		0
[illegible]$_{2}$ 'unspecified gift'	0t (0)	0t (0)	0t (0)	0t (0)	0t (0)	0t		0
						0t		0
[illegible]$_{a.2}$ 'consumables loan'	21y5d0t (5)	17y2d0t (31)	0t (0)	7d8t (14)	0t (0)		39y4d8t	52.15
[illegible]$_{a.3}$ 'interest-free loan of consumables other than rice'	18y5d0t (4)	10y6d0t (24)	0t (0)	7d8t (14)	0t (0)	29y8d8t		75.68
[illegible] 'forced loan of livestock'	3y0d0t (1)	6y6d0t (7)	0t (0)	0t (0)	0t (0)	9y6d0t		24.32
						39y4d8t		100.00
[illegible] di gāwat 'balanced replacement of consumables loan'	0t (0)	2d0t (1)	0t (0)	0t (0)	0t (0)		2d0t	0.26
Grand Total	36y5d0t (8)	34y2d0t (66)	1y2d0t (6)	3y6d8t (62)	1d2t (4)		75y7d0t	99.99

[1] See Table :- Bantitan Livestock: Livestock Acquired by Bantitan Households, 1967.

Table 69. Magnitudes and Forms of Material Flows: Livestock Dispensation by Bantitan Households (settlement totals of values in bundled rice, and number of animals), 1967[1]

categories of dispensation forms	nuwan$_{a.1}$ 'water buffalo' value number	balok$_{a.1}$ 'pig' value number	gāsu$_{a.1}$ 'dog' value number	manuk$_{a}$ 'chicken' value number	kāmit$_{1}$ 'duck' value number	total: category totals value	total: %
balos$_{b.1}$ 'exchange'	43y5d0t (9)	12y6d0t (25)	8d0t (4)	2y1d4t (39)	3d4t (4)	59y3d8t	72.29
tīna$_{a.1}$ 'intercategory exchange'	43y5d0t (9)	9y8d0t (20)	8d0t (4)	1y9d1t (35)	3d4t (4)	56y3d5t	94.90
palak$_{a.1}$ 'sale of valued capital goods'	34y5d0t (7)	0t (0)	0t (0)	0t (0)	0t (0)	34y5d0t	61.22
bellirit 'lumber exchange'	4y0d0t (1)	1y2d0t (3)	0t (0)	0t (0)	0t (0)	5y2d0t	9.23
[illegible] 'sugarcane wine exchange'	0t (0)	8d0t (4)	0t (0)	0t (0)	0t (0)	8d0t	1.42
[illegible] 'rice purchase'	0t (0)	3y0d0t (5)	2d0t (1)	7d3t (14)	1d0t (2)	4y0d3t	7.15
tīna$_{a.2}$ 'unspecified inter-category exchange'	5y0d0t (1)	4y8d0t (8)	6d0t (3)	1y1d8t (21)	2d4t (2)	11y8d2t	20.98
						56y3d5t	100.00
balos$_{b.2}$ 'intracategory exchange'	0t (0)	2y8d0t (5)	0t (0)	2d3t (4)	0t (0)	3y0d3t	5.10
sobal 'one-for-one livestock exchange'	0t (0)	2y0d0t (1)	0t (0)	1d2t (2)	0t (0)	2y1d2t	69.97
[illegible] 'one-for-many livestock exchange'	0t (0)	8d0t (4)	0t (0)	1d1t (2)	0t (0)	9d1t	30.03
						3y0d3t	100.00
						59y3d8t	100.00
[illegible]$_{a.1}$ 'earning for labor'	0t (0)	1y2d0t (2)	0t (0)	2d1t (4)	0t (0)	1y4d1t	1.72
pabbu$_{a.2}$ 'non-wage earning for labor'	0t (0)	0t (0)	0t (0)	0t (0)	0t (0)	0t	0
[illegible] 'wage earning for labor'	0t (0)	1y2d0t (2)	0t (0)	2d1t (4)	0t (0)	1y4d1t	100.00
						1y4d1t	100.00
[illegible] 'gift'	0t (0)	1y0d0t (1)	0t (0)	0t (0)	5t (1)	1y0d5t	1.28
[illegible] 'help'	0t (0)	0t (0)	0t (0)	0t (0)	0t (0)	0t	0
[illegible] 'mortuary gift'	0t (0)	1y0d0t (1)	0t (0)	0t (0)	0t (0)	1y0d0t	95.24
[illegible] 'unspecified gift'	0t (0)	0t (0)	0t (0)	0t (0)	5t (1)	5t	4.76
						1y0d5t	100.00
[illegible]$_{1.2}$ 'consumables loan'	11y0d0t (2)	7y6d0t (22)	0t (0)	1y0d5t (19)	0t (0)	19y6d5t	23.92
[illegible]$_{a.2}$ 'interest-free loan of consumables other than rice'	11y0d0t (2)	5y0d0t (19)	0t (0)	1y0d0t (18)	0t (0)	17y6d0t	69.57
[illegible] 'forced loan of livestock'	0t (0)	2y0d0t (3)	0t (0)	5t (1)	0t (0)	2y0d5t	10.43
						19y6d5t	100.00
[illegible] 'balanced replacement of consumables loan'	0t (0)	6d0t (3)	0t (0)	5t (1)	0t (0)	6d5t	0.79
Grand Total	54y5d0t (11)	23y0d0t (53)	8d0t (4)	3y4d5t (63)	3d9t (5)	82y1d4t	100.00

[1] See Table :- Bantitan Livestock: Livestock dispensed by Bantitan Households, 1967.

Table 64. Magnitudes and Forms of Material Flows: Pig Acquisition by Baŋtitan Households for Slaughter (settlement totals of number of pigs in specific categories), April 1966 - May 1967[1]

	pūsu 'shoat'		gamāyan$_a$ 'young pig'		nāyas$_a$ 'farrowed sow'		tūmuŋ 'fully grown sow'		mabūtu 'fully grown barrow'	
	number	%	number	%	number	%	number	%	number	%
kinukūwa 'owned'[2]	18	27.27	17	30.36	1	100.00	1	100.00		
naŋalgan 'how acquired'[2]										
būwa 'share of jointly owned goods'	11	16.60	2	3.57						
galos$_{b.1}$ 'exchange'	22	33.33	13	23.21					1	100.00
kodaw$_1$ 'gift'	2	3.03	2	3.58						
gāwat$_{a.2}$ 'consumables loan'	12	18.18	19	33.93						
galos di gāwat	1	1.52	3	5.36						
Total	66	100.00	56	100.00	1	100.00	1	100.00	1	100.00

[1] The number and values of pigs slaughtered by individual households are given in Table 45.

[2] The forms of acquisition listed below naŋalgan concern only those pigs obtained at the time of slaughter specifically for that purpose. All others are included in kinukūwa 'owned' regardless of the different ways in which they had originally been obtained.

Table 65. Magnitudes and forms of Material Flows: Pig Acquisition by Bantitan Households for Slaughter (settlement totals of number of pigs in specific categories), June 1967 - November 1967[1]

	pūnu 'shoat'		gamāyan$_a$ 'young pig'		nāyas$_a$ 'farrowed sow'	
	number	%	number	%	number	%
kinukūwa 'owned'[2]	6	16.67	5	38.46		
nanalqan 'how acquired'[2]						
būwa 'share of jointly owned goods'	3	8.33	2	15.38		
galos$_{b.1}$ 'exchange	8	22.22	4	30.77		
kodaw 'gift'	1	2.78	1	7.69		
gāwat$_{a.2}$ 'consumables loan'	15	41.67	1	7.69	1	100.00
galoa di gāwat	3	8.33				
Total	36	100.00	13	100.00	1	100.00

[1] The number and values of pigs slaughtered by individual households are given in Table 46.

[2] The forms of acquisition listed below nanalqan concern only those pigs obtained at the time of slaughter specifically for that purpose. All others are included in kinukūwa 'owned' regardless of the different ways in which they had originally been obtained.

Table 66. Magnitudes and Forms of Material Flows: Water Buffalo and a Zebu Acquired for Slaughter by Baŋtitan Households (settlement totals of number of animals in specific categories) April 1966 - January 1968[1]

	gayyūbu$_{a.1}$ 'water buffalo calf'		nappāyuŋan 'young water buffalo cow/zebu'[2]		paqabqabbāya 'young water buffalo bull'		kalaŋtaŋan$_{a}$ 'fully grown water buffalo cow'	
	number	%	number	%	number	%	number	%
kinukūwa 'owned'[3]	1	33.33	2	22.22	3	46.66		
naŋalqan 'how acquired'								
galog$_{b.1}$ 'exchange	1	33.33	3	33.33	5	33.33	1	50.00
ɛāwat$_{a.2}$ 'consumables loan'	1	33.33	4	44.44	7	20.00	1	50.00
Total	3	100.00	9	100.00	15	100.00	2	100.00

[1]The number and values of the slaughtered water buffalo and cow are given in Tables 50 and 51.

[2]One of the six heads obtained by 'exchange' is a zebu.

[3]The forms of acquisition listed below naŋalqan concern only those pigs obtained at the time of slaughter specifically for that purpose. All others are included in kinukūwa 'owned' regardless of the different ways in which they had originally been obtained.

Table 67. Magnitudes and Forms of Material Flows:

'Valued Estate' Acquired by Baŋtitan Households

(values in bundled rice, goods used in acquisition), 1967

property purchased	buyer	values in bundled rice	goods used in acquistion
payaw 'rice-field'	Dakyn	18y0d0t[1]	4 nuwaŋ$_{a.2}$ 'four water buffaloes'
payaw 'rice-field'	Gammu	4y0d0t[2]	1 mamalu$_{a}$ 'water buffalo bullock'
payaw '[2] rice-fields'	Bakākaw	10y0d0t[3]	2 nuwaŋ$_{a.2}$ 'two water buffaloes'[4]

[1] The customary value of the purchased field is "4 nuwaŋ$_{c}$ 'four water buffalo'" (see Appendix III for a description of the 'livestock' system of value measure).

[2] The customary value of the acquired field is "1 nuwaŋ$_{c}$ 'one water buffalo'."

[3] The customary value of the acquired field is "2 nuwaŋ$_{c}$ 'two water buffalo'."

[4] These water buffaloes appear on Table 63 as dispensed 'livestock'. One of the two water buffaloes relinquised by Bakākaw was paqabqabbāya 'young water buffalo bull' and the other was nappāyuŋan 'young water buffalo cow'.

Table 68. Ranking of Bantitan Households by Various Economic Criteria: Estate Owned in relation to Household Composition

ranking order	house site number	house-hold head	total values of estate owned in bundled rice[1]	household composition: number of current members[2]	number of unmarried members[3]	number of former members[4]
1.	bŋ 2	kāyu	350y2d0t	7	5+	0
2.	bŋ 25	tunnīnu	329y2d0t	5	3+	0
3.	bŋ 4	qantun	181y2d0t	3	1+	0
4.	bŋ 1	dakyun	175y3d0t	6	4+	0
5.	bŋ 19	qabiddaw	146y8d0t	5	3+	0
6.	tm 1	dawgin	139y3d0t	3	1	0
7.	bŋ 10	bakākaw	128y5d0t	6	4+	0
8.	bŋ 22	durgāqas	128y1d0t	5	3	0
9.	bŋ 26	pagatpat	122y6d0t	2	1	7
10.	bŋ 12	sinyaŋ	109y1d0t	1	0	0
11.	bŋ 13	nusītu	102y0d0t	2	0+	0
12.	pŋ 1	sāwin	97y2d0t	6	4+	0
13.	bŋ 27	sabin	91y3d0t	6	4+	0
14.	bŋ 24b	nītu	88y7d0t	4	2+	0
15.	bŋ 17	qumnas	82y5d0t	6	4+	0
16.	bŋ 5	qānuy	76y4d0t	6	4+	0
17.	bŋ 35	panyaw	75y3d0t	3	1+	0
18.	bŋ 34	qannamīda	71y3d0t	5	3	0
19.	bŋ 3	wagāson	70y8d0t	5	5+	0
20.	bŋ 14	sūmiŋ	69y4d0t	3	2+	0
21.	bŋ 24a	piŋnut	65y0d0t	3	1	1
22.	bŋ 30	kampin	62y8d0t	3	1+	0
23.	pŋ 2	kalwad	59y4d0t	6	5+	2
24.	bŋ 15	gunnaw	54y0d0t	2	1	0
25.	bŋ 16	tunnay	45y4d0t	1	0	0
26.	bŋ 31	sakki	42y2d0t	7	5	1
27.	bŋ 33	qanīkog	42y1d0t	4	2+	1
28.	bŋ 28	bosway	41y2d0t	5	3	4
29.	bŋ 11	kinnag	39y0d0t	2	1	5
30.	tm 3	tūkis	37y5d0t	4	3	0
31.	tm 2a	tukmu	36y3d0t	7	5	2
32.	bŋ 8	dannuway	32y6d0t	3	3	2
33.	bŋ 21	siyun	30y3d0t	3	1	3
34.	bŋ 23	dinayaw	18y4d0t	1	0	4
35.	bŋ 32	salaŋqoy	9y4d0t	6	4	2
36.	bŋ 20	quway	7y1d0t	1	0	0
37.	bŋ 9	qoggas	3y0d0t	2	0	5
38.	bŋ 18	baŋanay	2y2d0t	3	2	4
39.	tm 2b	noplop	1y9d0t	2	1	1

[1] See Table 51.

[2] See Table 42.

[3] Unmarried household members are primarily children who hold inheritance rights to the existing household property of the parents forming the household. Even if the property owned by a given household is currently substantial, it will decrease as each of the children in the household marries and receives title to a portion of the property. A large number of children in such a household implies that in due course, the household property will be significantly reduced. On the other hand, the property holding of those with no child, or whose children are all married and have already received their inheritance, will remain basically unchanged.
The numeral is marked with a plus sign, +, when the woman of the household is still reproductive. Thus, 0+ is distinct from 0. The former, 0+, refers to a household such as that in which a child is not yet born to the newly wed. In contrast, the latter, 0, refers to a household whose members are either past the reproductive age or known to be barren.

[4] Former household members are those who had once been members of a given household but separated from the household at marriage, having received title to a portion of the property then held by the household. The major implications of such persons to the material standing of a given household are three: (1) the amount of inheritance already transferred to them from the former holding of the household enters into people's general consideration in evaluating the 'wealth' status of the household; (2) when necessary, the household is expected to receive 'help' (tidal) in the form of 'gift' (kodiw) from such former members; and (3) these former members no longer hold primary inheritance rights to the existing household property so long as their unmarried full siblings still remain in the household.

Table 69. Ranking of Ḃaŋtitan Households by Various Economic Criteria: Rice Production-Consumption Ratio in relation to Yields of 'rice-fields' Owned

rice production-consumption ratio				total yields of fields owned	
ranking order	house site number	house-hold head	%	ranking order	kg
1.	bŋ 12	sinyaŋ	252.05	20.	690.00
2.	bŋ 9	qoggas	234.83	37.	0.00
3.	bŋ 13	nusītu	225.89	15.	911.25
4.	bŋ 16	tunnay	212.33	23.	585.00
5.	bŋ 25	tunnīnu	174.91	2.	2269.50
6.	bŋ 1	dakyun	162.14	4.	1953.00
7.	tm 1	dawqin	158.90	6.	1560.00
8.	bŋ 2	kāyu	152.57	1.	3172.50
9.	bŋ 4	qantun	143.15	3.	2013.00
10.	bŋ 14	sūmiŋ	140.15	14.	997.50
11.	bŋ 22	duŋgāqas	132.23	5.	1563.00
12.	bŋ 15	gunnaw	122.68	22.	604.50
13.	bŋ 24a	piŋnut	122.15	17.	802.50
14.	bŋ 27	sabin	118.11	8.	1321.50
15.	bŋ 11	kinnag	111.11	30.	397.50
16.	bŋ 35	panyaw	111.06	11.	1128.75
17.	bŋ 10	bakākaw	102.19	7.	1455.00
18.	bŋ 24b	nītu	99.02	18.	759.00
19.	pŋ 1	sāwin	96.46	9.	1267.50
20.	bŋ 30	kampin	95.43	27.	493.50
21.	bŋ 23	dināyaw	94.06	33.	154.50
22.	bŋ 33	qanīkog	92.47	29.	405.00
23.	bŋ 19	qabiddaw	91.78	10.	1185.00
24.	bŋ 17	qumnas	80.45	12.	1057.05
25.	bŋ 34	qannamīda	75.02	16.	862.50
26.	bŋ 5	qānuy	70.22	19.	730.50
27.	pŋ 2	kalwad	66.51	13.	1056.00
28.	tm 2a	tukmu	59.21	24.	555.00
29.	bŋ 26	pagatpat	58.73	32.	257.25
30.	bŋ 21	siyun	57.14	28.	438.00
31.	tm 3	tūkis	56.32	25.	555.00
32.	bŋ 3	wagāson	50.51	21.	636.00
33.	bŋ 31	sakki	48.77	26.	516.00
34.	bŋ 20	quwaŋ	41.78	34.	91.50
35.	tm 2b	noplop	39.27	36.	39.75
36.	bŋ 32	salaŋqoy	35.71	39.	0.00
37.	bŋ 8	dannuway	30.62	31.	285.00
38.	bŋ 28	bosway	29.57	35.	88.50
39.	bŋ 18	baŋanay	13.24	38.	0.00

Table 70. Ranking of Baŋtitan Households by Various Economic Criteria: Livestock Slaughtered in relation to Livestock Owned

total livestock slaughtered				total livestock owned	
ranking order	house site number	house-hold head	values in bundled rice	ranking order	values in bundled rice
1.	bŋ 33	qanīkog	34y1d1t	11	5y7d0t
2.	bŋ 3	wagāson	23y2d9t	18	2y2d8t
3.	bŋ 31	cakki	21y6d0t	31	1d5t
4.	pŋ 1	sāwin	20y6d0t	14	4y2d6t
5.	bŋ 11	kinnag	18y1d6t	4	16y1d9t
6.	bŋ 24a	piŋnut	16y1d4t	29	3d7t
7.	bŋ 10	bakākaw	15y8d5t	8	7y6d0t
8.	bŋ 27	sabin	13y7d1t	12	5y6d1t
9.	bŋ 26	pagatpat	12y3d2t	17	2y8d0t
10.	bŋ 34	qannamīda	11y9d2t	22	1y2d6t
11.	bŋ 35	panyaw	11y7d0t	15	3y1d6t
12.	bŋ 19	qabiddaw	9y7d0t	5	14y1d6t
13.	bŋ 17	qumnas	7y5d3t	13	5y0d1t
14.	tm 3	tūkis	6y5d1t	24	1y1d4t
15.	tm 2a	tukmu	4y7d5t	20	2y0d6t
16.	bŋ 2	kāyu	4y1d7t	1	67y6d1t
17.	bŋ 21	siyun	3y7d7t	33	1d1t
18.	bŋ 13	nusītu	3y1d8t	3	18y6d9t
19.	bŋ 30	kampin	2y7d5t	7	8y2d9t
20.	bŋ 4	qantun	2y1d5t	10	7y1d2t
21.	bŋ 23	dināyaw	2y1d2t	34	6t
22.	bŋ 1	dakyun	2y0d2t	21	1y8d4t
23.	bŋ 15	gunnaw	1y9d5t	35	5t
24.	bŋ 28	bosway	1y9d5t	30	1d6t
25.	bŋ 25	tunnīnu	1y8d0t	2	41y1d1t
26.	tm 1	dawqin	1y2d8t	6	12y3d2t
27.	bŋ 8	dannuway	1y2d0t	32	1d2t
28.	bŋ 32	calanqoy	1y1d9t	25	1y0d2t
29.	pŋ 1	kalwad	1y1d5t	28	3d9t
30.	bŋ 5	qānuy	1y1d4t	27	7d7t
31.	bŋ 9	qoggas	1y1d0t	36	0t
32.	bŋ 12	sinyaŋ	8d0t	23	1y1d5t
33.	tm 2b	noplop	3d0t	39	0t
34.	bŋ 20	bitaŋgas	2d7t	19	2y2d6t
35.	bŋ 24b	nītu	2d1t	16	3y0d9t
36.	bŋ 22	durgāqas	1d0t	26	9d1t
37.	bŋ 14	sūmiŋ	0t	9	7y5d0t
38.	bŋ 16	tunnay	0t	37	0t
39.	bŋ 18	baŋānay	0t	38	0t