

FACTORS ASSOCIATED WITH NUTRITIONAL STATUS OF
RURAL WOMEN IN THREE BARANGAYS OF MUÑOZ,
NUEVA ECIJA, PHILIPPINES

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TABLE OF CONTENTS

	PAGE
LIST OF FIGURES	viii
LIST OF TABLES	ix
LIST OF APPENDICES	x
ABSTRACT	xi
INTRODUCTION	1
Statement of the Problem	3
Objectives of the Study	4
Hypothesis of the Study	5
Significance of the Study	6
Scope and Limitation of the Study	7
REVIEW OF RELATED LITERATURE	9
Nutritional Status	9
Socio-Economic Factors and Malnutrition	15
Educational Factors and Malnutrition	27
Psychological Factors and Malnutrition	29
Summary of Literature Reviewed	37
METHODS OF RESEARCH	43
Conceptual Framework	43
Operational Definition of Terms	48
Locale of the Study	51
The Respondents and Sampling Procedure	52
Instrumentation	52

	PAGE
Data Gathering Procedure and Method of Analysis	57
RESULTS AND DISCUSSION	59
Socio-Economic Characteristics of the Respondents	59
Educational Status of the Respondents	62
Psychological Characteristics of the Respondents	65
Nutritional Status of the Respondents	74
Correlation between the Respondents' Socio-Economic and Educational Status	75
Correlation between the Respondents' Educational and Nutritional Status	78
Correlation between the Respondents' Educational Status and Psychological Characteristics	79
Correlation between the Respondents' Psychological Characteristics and Nutritional Status	81
Correlation between the Respondents Nutritional Status and Socio-Economic Status	81
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	83
Summary	83
Conclusions	91
Recommendations	93
LITERATURE CITED	95
APPENDICES	104

LIST OF FIGURES

FIGURES		PAGE
1	The Poverty Cycle	46
2	The conceptual model showing the relationship between independent variables and dependent variables	47
3	Map of the Philippines, Highlighting the Province of Nueva Ecija	54
4	Map of Nueva Ecija, Highlighting the Municipality of Muñoz	55
5	Map of Muñoz Municipality showing the three study sites (Barangays Bantug, Linglingay and San Felipe)	56

LIST OF TABLES

TABLE		PAGE
1	Population, total number of household and sample respondents	53
2	Socio-economic status of respondents	60
3	Educational status of the respondents	63
4	Food preference	66
5	Food items and frequency of eating	69
6	Food beliefs	71
7	Food practices	73
8	Nutritional status of the respondents	74
9	Correlation between socio-economic status and educational status	78
10	Correlation between respondents' educational and nutritional status	78
11	Correlation between respondents' educational status and psychological characteristics	80
12	Correlation between respondents' psychological characteristics and nutritional status	81
13	Correlation between respondents' nutritional status and socio-economic status	82

LIST OF APPENDICES

APPENDIX		PAGE
A	Interview schedule	105
B	Standard weight for Filipino adults	110
C	Letter to Mayor of Muñoz Municipality	111

ABSTRACT

LALNILAWMA, Institute of Graduate Studies, Central Luzon State University, Muñoz, Nueva Ecija, Philippines, October, 1996. **FACTORS ASSOCIATED WITH NUTRITIONAL STATUS OF RURAL WOMEN IN THREE BARANGAYS OF MUÑOZ, NUEVA ECIJA, PHILIPPINES.**

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This study was conducted to find out factors associated with nutritional status of rural women in three barangays of Muñoz, Nueva Ecija, Philippines. It verified the relationship of variables such as socio-economic, educational status, psychological characteristics and nutritional status. Quota sampling was utilized to determine the 180 respondents from three barangays of Muñoz. Personal interviews were conducted by using an interview schedule. Analysis of data was done by using descriptive statistics and Pearson's product moment coefficient of correlation.

Results revealed that the socio-economic status indicators as shown by annual family income and percentage of income spent on food were related to educational status. This means that the lower the income, the lower is the educational status. This confirmed the assumption that poverty affects one's educational status. It also proves

that the higher the income, the lower is the percentage income spent for food.

Likewise, the educational status was positively correlated with psychological characteristics such as food preferences and food beliefs. This means that the higher the educational status, the more desirable are the food preference and beliefs. This confirmed the assumption that educational status affects the food preference and belief of a person.

On the contrary, socio-economic, educational status, and psychological characteristics were found not significantly related with nutritional status.

The findings further point out the need to reduce poverty incidence and improve the quality of formal and non-formal education, particularly in the rural areas. This will help the rural populace acquire the proper attitudes and convictions related to the importance of nutrition in regulating one's own health for the improvement of human life.

LITERATURE CITED

- ALIGAEN, M. and C. FLORENCIO. 1980. Intrahousehold nutrient distribution and adequacy of food and nutrient intake of Filipino urban households. *Philippine Journal of Nutrition*, 33(1):11-19, Manila.
- ALLEYNE, G.A.O., et al. 1977. *Protein-Energy Malnutrition*. Edward Arnold (Publishers) Ltd., London.
- AROCENA, VIRGINIA V. 1986. Communication related factors affecting the involvement of rural women in the "NGAYON" program (BIDANI) Licab, Nueva Ecija. Unpublished M.S. thesis, CLSU, Muñoz, Nueva Ecija.
- AUGUSTIN, C. 1980. Correlates of the nutritional status of pre-school children at Bacililing, Aparri, Cagayan. Unpublished M.S. thesis, UPLB, College, Laguna.
- AVENIR, CARLOS S. 1976. A Nutrition program for a healthier nation. *The Filipino Teachers*, vol. 31, July 1, 1976.
- AVILA-MACAVINTA, L. et al. 1974. Relationship of malnutrition and socio-economic factors among pediatric patients. *Philippines Journal of Pediatrics*, 13(6):268-272.
- BALANON, CONCEPCION. 1977. Socio-economic and dietary factors affecting the nutritional status of pre-school children in Catamaran, Northern Samar. Unpublished M.S. thesis, UPLB.
- BARBA, CORAZON, et al. 1987. Policy Issues on Nutrition and Welfare. UPLB Agricultural Policy Working Group. Center for Policy and Development Studies, UPLB, College, Laguna.
- BENDER, ARNOLD E. and DAVID A. BENDER. 1982. *Nutrition for Medical Students*. Vail-Ballou Press, New York, USA.
- BLANKHART, D.M. 1968. Individual intake of food in young children in relation to malnutrition and nightblindness. *Trop. Geogr. Med.* 19:144-155.
- BOGERT, JEAN L. 1950. *Nutrition and Physical Fitness*. London: W.B. Saunders Company.

- BOGERT, JEAN L., GEORGE M. BRIGGS and DORIS HOWES CALLOWAY. 1973. Nutrition and Physical Fitness. Philadelphia: W.B. Saunders Company.
- BUCKENRIDGE, MARIAN and M. NICBLET. 1964. Youth and Development of the Young Child. Philadelphia and London. W.B. Saunders, Co.
- BULATAO-JAYME, et al. 1981. Poor Urban Diets: Causes and Feasible Changes, Food Problems of Asian Cities, No. WP-82-7/8, East-West Center, Hawaii, September 1981. In the 4th Inter-Congress, Pacific Science Association, Singapore.
- BUSTRILLOS, NENA R. 1959. Food management practices of rural homemakers. UP-CRDC (Mimeographed).
- CALIENDO, M.A.D. and SANJUR, D. 1977. Nutritional status of pre-school children. Journal of American Dietary Association. 71:103-107.
- CEDEÑO, SALUSTIANA C. 1978. Food beliefs and nutritional practices of selected urban low-income families: a basis for a proposed non-formal education program on nutrition. Unpublished M.A. Ed. thesis, University of San Carlos, Cebu City.
- CHAIKEN, M. 1982. Nutritional status in a frontier resettlement community in the Philippines. In the Southwestern Anthropological Association Meeting, Sacramento, California, April 10, 1982.
- CHULARANGKA, S. and L. ONATE. 1980. Factors associated with dietary intake and nutritional status of rural pre-school children (3 to 6 years). Philippine Journal of Nutrition, 33(1):20-28, Manila.
- CLANDIO, VIRGINIA S., et al. 1982. Basic Nutrition for Filipinos. Merriam School & Office Supplies Corp. Manila, Philippines.
- CLARETE, C. 1981. Determinants of dietary intake of pre-school children (3 years old) in Mayondon, Los Baños, Laguna. Unpublished M.S. thesis, UPLB, College, Laguna.

- COOK, R.A., DAIS, S.B., RADKE, F.H., THORNBURY, C.E. 1976. Nutrition status of head start and nursery school. Journal of American Dietetic Association. 68:120.
- DARVEY, P.L.H. Report of the national nutrition survey. Food and Nutrition Board. ACCRA. (Mimeographed).
- DELA CRUZ, FLORIDA S. 1981. Food preferences and eating habits of college students of the Isabela State University. Unpublished M.A. thesis, Isabela State University, Echague, Isabela.
- DEN HARTOG, A.P. 1976. Unequal distribution of food within the household. (Mimeographed).
- DUBOS, RENE'. 1976. Man Adapting. Yale University Press, New Haven and London, Britain.
- DOJILLO, E. 1977. Factors associated with dietary intake of pregnant women in Dorente, Eastern Samar. Unpublished M.S. thesis, UPLB, College, Laguna.
- ENGEL, R.W. 1975. Nutrition, population, and family planning. Nutrition forum. Seminar presented during Seminar on Nutrition in National Development. UPLB, College, Laguna.
- GAMIT, ESTRELITA TOLENTINO. 1993. Comparative study of the nutritional status of students in public and private highschoools in selected municipalities of Nueva Ecija. Unpublished MS thesis, CLSU, Muñoz, Nueva Ecija, Philippines.
- FLORENCIO, CECILIA A. 1980. Comparison of the determinants of nutrient intake of urban and rural families. Ecology of Food and Nutrition.
- FLORENCIO, CECILIA A. 1989. Nutrition as a Focus of Development Policies and Programs in the Philippines. The College of Home Economics, UP Diliman, Q.C.
- FOX, E. 1961. Family and society in rural Philippines. Journal of Home Economics. 62:241-145.

- FRYER, B.A., LAMKIN, G.H., VIVIAN, V.M., EPPRIGHT, E.S., FOX, H.M. 1971. Diets of pre-school children in the North Central Region: calories, protein, fat and Carbohydrates. *Journal of American Dietetic Association*. 59:228.
- GARCIA, LORNA. 1978. Nutritional contribution of supplementary foods in feeding center in Laguna: effects on the nutritional status of pre-school children. Unpublished M.S. thesis, UPLB.
- GONZALES, N. 1966. Filipino culture and food habits. *Philippine Journal of Nutrition*. 12(23):194-201.
- GONZALO, S. 1979. Factors affecting Laguna households food consumption. Institute of Development and Research Discussion Paper, No. 76-113.
- GUIDO, ALICIA TOBIAS. 1977. Food beliefs and practices of the people of Mandih, Sindangan, Zamboanga Del Norte and their implications to nutrition education. Unpublished M.A. Ed. thesis, Saint Vincent's College, Dipolog City.
- GUZMAN, VIRGINIA and TENTENGO, V. 1972. Effect of nutrition and illness on the growth and development of Filipino in rural setting. *Philippine Journal on Nutrition*. 25(2):81-94.
- GUZMAN, H. 1979. Health and nutrition needs and practices of rural homemakers as bases for evolving a health and nutrition program for a Barangay. Unpublished M.S. thesis, UPLB, College, Laguna.
- HARDY, M.C., SPOHN, A., AUSTIN, G., MCGIFFERT, S., MOHR, E., PETERSON, A.B. 1943. Nutritional and dietary inadequacies among city-children from different socio-economic groups. *Journal of American dietetic Association*. 19:173.
- HORRER, M.R. et al. 1977. Anthropometric and dietary study of Miskito Indian children in rural Nicaragua. *Ecology of Food and Nutrition*. 6:139.
- JELLIFFE, DERICK. 1966. *The Assessment of Nutritional Status of the Community*. Geneva: WHO.

- JELLIFFE, DERICK and E.P. JELLIFFE. 1974. Nutrition programs for pre-school children. American Journal of Clinical Nutrition. 25:595.
- JOHNSTON, B.F. and J.P. GREAVES. 1969. Manual on Food and Nutrition Policy. Food and Agriculture Organization of the United Nations. Rome, Italy.
- JOVEN, E. 1980. Nutrient intake and food preferences of college students of the University of the Philippines and their correlates. Unpublished M.S. thesis, UP Diliman, Q.C.
- KOPPERT, JAON. 1977. Nutritional Rehabilitation: Its Practical Application. Trimed Book Ltd. London, Britain.
- LARA DE, M. 1969. Food classification among mothers in a suburban community and its implication to nutrition education. Unpublished M.S. thesis, UP Diliman, Q.C.
- LEWIS, CLARA M. 1982. Basic and Family Nutrition. F.A. Davis Company. Philadelphia, U.S.A.
- LIM, L. and C. FLORENCIO. 1975. Nutrient intake of healthy and malnourished pre-school children in relations to their family environment. Nuntrisyon, 1(1):36-52, Manila.
- LOWENBERGE, MIRIAM E., et al. 1968. Food and Man. John Wiley & Sons, Inco. New York.
- MASON, JOHN B., et al. 1984. Nutritional Surveillance. Geneva: WHO
- MARTELLINO, CONCEPTION. 1965. Programs to meet the nutritional needs of the pre-school children. Philippine Journal of Nutrition. 12(24):47.
- MASACUPAN, MILAGROS J. 1981. The impact of nutrition-oriented development program in five pilot communities. M.S. thesis, UPLB, College, Laguna.
- MCFIE, E. 1967. Nutrient intake of urban dwellers in Lagos, Nigeria. British Journal of Nutrition. 21:257-268.

- MENDOZA, M.S. 1982. Analysis of demand for meat in the Philippines 1973-1976. Unpublished M.S. thesis, UPLB, College, Laguna.
- MENDOZA, ROSITA MUNOZ. 1996. Proceedings: Gender sensitivity training for CLARRDEC GAD focal group members. Paper presented at CLSU during the Gender Responsive R & D Training on February 20-23, 1996.
- NATIONAL NUTRITION COUNCIL. 1988. Nutrition in development. National consultative meeting on the Philippines Food and Nutrition Program, December 13-14, 1988, Manila, Philippines.
- NFE/WID, EXCHANGE ASIA. 1982. Occasional paper. Vol. II and IV. March.
- NFE/WID, EXCHANGE ASIA. 1983. Occasional paper. Vol. VI. March.
- NICOL, B.M. 1959. The calorie requirement of Nigeria peasant farmers. British Journal of Nutrition. 293-306.
- ONATE, LUZ. U., A. AGUINALDO AND E. QUIOGUE. 1974. Estimation of food intake of household members by multiple regression. The Philippine Agriculturist. 58(1&2):72-77.
- ONATE, LUZ. U. 1977. Integrating nutrition in selected curricula of UPLB. Presented at the Philippine Association of Nutrition. UPLB seminar workshop in integration of nutrition in selected courses at the UPLB Union (Memeographed).
- OPEÑA, MERCEDES, LUDIVILLA RAMOS, THELMA RAMOSO and MINERVA B. INCIONG. 1977. Dietary survey among pregnant and lactating women in a resettlement. Philippine Journal of Nutrition, Vol. 30, July-September, 1977.
- OPEL, BLAS F. 1993. Declining literacy in a stagnant economy. Manila Bulletin, February 25, 1993.
- OWEN, G.M., GARRY, P.J., KRAM, K.M., NELSEN, C.E., MONTALVO, J.M. 1969. Nutritional status of pre-school children. A pilot study. American Journal of Clinical Nutrition. 22:1444.

- PASCUAL, R. CONRADO. 1971. Proposed four-year nutrition program. Speech-lecture delivered before the NFAC and NCCFN at the Paulino J. Garcia Memorial Hall. March 1, 1971.
- PENAFLO, NORMA R. and ELENA S. QUIOQUE. 1966. A study of food beliefs among Filipinos in six regions of the Philippines. *Philippine Journal of Nutrition*, Vol. 19, October-December, 1966.
- POPKINS, B.M. 1975. Income, time, the working mother and child nutrition. Discussion paper No. 75-9. IEDR School of Economics. University of the Philippines.
- QUIOGUE, ELENA. 1972. Nutrition evaluation of 63 households diets in four barrios in Mt. Province. *Philippine Journal of Nutrition*. 23(2):272-293.
- RAO, SATYANASAYANA R. 1971. Nutritional status of people of different socioeconomic groups in rural area with special reference to pre-school children. *Ecology of Food and Nutrition*. 4:257.
- READ, MARGARET. 1948. Cultural factors in relation to nutritional problems in the Tropics. Proceeding of 4th International Congress on Tropical Medicine and Malaria in Washington, D.C. Quoted in Valdescanas, O. in Barrio Central: A study of some social and cultural factors in malnutrition.
- RITCHIE, J.A.S. Teaching better nutrition. FAO, Rome, a study of approaches and techniques. FAO Nutritional Studies. (Mimeographed).
- RODRIGUEZ, N. and S. ROLDAN. 1972. Survey on food preparation and common cooking practices in the Bicol Region. *Philippine Journal of Nutrition*, 25(1):31-42, Manila.
- ROMANA, SOLEDAD B. 1981. Relationship of some socio-economic and cultural factors to protein-calorie intake and its subsequent effect on the nutritional status of selected pre-school children of barangay Mayondon. Unpublished M.S. thesis, UPLB, College, Laguna.

- SALAZAR, JR. JUAN A. 1977. A survey on the nutritional practices, beliefs and attitudes of mothers in Santa Maria, Isabela. Unpublished M.A. Ed. thesis, St. Paul College of Tuguegarao, Tuguegarao, Cagayan.
- SATYANARANA, M.E. 1979. Nutrition deprivation in childhood and the body size, activity and physical work capacity of young boys. *The Journal of Clinical Nutrition*. 32:1769-1975.
- SOLON, F. 1976. Nutrition: The Philippine experience (in International conference on the Survival of Humankind: The Philippine Experiment), Manila.
- SOON, LIM ANN. 1994. Economic status, educational status and ecological awareness in San Jose City, Nueva Ecija. Unpublished Ph.D. dissertation, Central Luzon State University, Muñoz, Nueva Ecija, Philippines.
- STARE, FEDERICK J. and MARGARET McWILLIAMS. 1973. *Living Nutrition*. New York: John Wiley & Sons, Inc.
- SY-QUIMSLAM, E. 1965. Meeting the needs of the pre-school child. A resume significance of the conference. *Philippine Journal of Nutrition*. 16(5):9-13.
- THOMPSON, B.P. Two studies in Africa nutrition. Rhodes Livingstone Paper, No. 24. Lusaka.
- VALDECAÑAS, OFELIA. 1972. A study of some social and intellectual development. Factors in relation to malnutrition in barrio Central, Batangas, Philippine *Journal of Nutrition*. 24:222-235.
- VALENZUELA, R. et al. 1979. Distribution of nutrients within the Filipino family. *Nutrition Reports International*.
- WEBSTER. 1981. Webster's Third New International Dictionary, Merriam Webster, Inc.
- WILSON, EVA D., KATHERINE H. FISHER and MARY E. FUGUA. 1961. *Principles of Nutrition*. New York: John Wiley & Sons, Inc.

YENRUDI, SIRIPON. 1978. Nutritional status and intellectual development of pre-school children (3-6 years old). Unpublished M.S. thesis, UPLB, College Laguna.

ZEITLIN, M. et al. 1978. Breastfeeding and nutritional status in depressed urban areas of greater Manila, Philippines. Ecology of Food and Nutrition, 7:103-

- YENRUDI, SIRIPON. 1978. Nutritional status and intellectual development of pre-school children (3-6 years old). Unpublished M.S. thesis, UPLB, College, Laguna.
- ZEITLIN, M. et al. 1978. Breastfeeding and nutritional status in depressed urban areas of greater Manila, Philippines. Ecology of Food and Nutrition, 7:103-113.