THE SOCIO-ECOLOGICAL CORRELATES OF ECONOMIC DEPENDENCE IN FOUR DAKOTA (SIOUX) COMMUNITIES IN SASKATCHEWAN

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Saskatchewan ed Dakota
mitakodapi eya Wakpaojate,
Mniduzanhan, Mdetanka, qa
Canre, denakiya unpi hena
de wowapi ituwicawakiran.

For my friends, the
Dakota people of Sas-
katchewan, at Round Plain,
Moose Woods, Standing
Buffalo, and Wood Mountain.

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CHAPTER I

PROBLEM AND FRAME OF REFERENCE

A. PROBLEM

This study attempts to explain (in part) variations in rates of economic dependence, or dependence on public assistance, among four rural Dakota (Sioux) Indian communities in Saskatchewan.

The position of the writer is that economic dependence or dependence on public assistance in certain Indian communities results from social disorganization by means of "increase of contacts" with non-Indian urban centers.

A modified socio-ecological frame of reference is used to assay this position empirically. It is applied to four kinds of relationships: sustenance, spatial, social, and cultural relationships. The frame of reference of this study is based on certain works of the human ecologists Quinn[1] and Zipf,[2] and the cultural anthropologist Redfield.[3]

---

[1]See: James A. Quinn, Human Ecology (New York: Prentice-Hall, Inc., 1950), 561 pp.

[2]See: George Kingsley Zipf, Human Behavior and the Principle of Least Effort: An Introduction to Human Ecology (Cambridge: Addison-Wesley Press, Inc., 1949), pp. 386-409.

[3]See: Robert Redfield, The Folk Culture of Yucatan (Chicago: University of Chicago Press, 1941), 416 pp.

Economic dependence is viewed in two ways in this study. First, economic dependence is considered to result from scale of living,[4] and thus to be influenced by certain ecological sustenance variables: (a) the abundance of limited environmental resources, such as land;[5] (b) the size of the population of the Indian community depending on the resources;[6] (c) the number of potential bread-winners in that Indian population;[7] and (d) the actual occupational structure of that Indian population.[8]

Second, economic dependence is considered to be associated with cultural, social and personal disorganization.[9] These interdependent types of disorganization are viewed as resulting from "increase of contacts" with outsiders. This view is supported by Redfield, who states in the concluding paragraph of his book:

---

[4]See: John Lewis Gillin and John Philip Gillin, An Introduction to Sociology (New York: The MacMillan Company, 1942), p. 720.

[5,6]See: (a) Quinn, op. cit., p. 296; (b) John Lewis Gillin, Poverty and Dependency: Their Relief and Prevention (New York: The Century Company, 1922), p. 923; (c) Amos H. Hawley, "Ecology and Human Ecology", Social Forces, XXII (May, 1944), reprinted in Studies in Human Ecology (George A. Theodorson, editor; Evanston, Ill.: Row, Peterson and Company, 1961), (referred to hereafter as Theodorson, SIHE), p. 150.

[7]See: Thomas S. McPartland, A Preliminary Socio-Economic Study of the Sisseton-Wahpeton Sioux (Vermillion, S. D.: Institute of Indian Studies, University of South Dakota, 1955).

[8]See: James A. Quinn, "The Nature of Human Ecology: Reexamination and Redefinition," Social Forces, XVIII (December, 1939), reprinted in Theodorson, SIHE), p. 140.

[9]See: (a) W. I. Thomas and Florian Znaniecki, The Polish Peasant in Europe and America, Volume II (New York: Dover Publications, Inc., 1958), p. 1652; (first published in America in 1918-1920 by the University of Chicago Press).

> The Yucatan materials, in spite of the possible objection that the differences are simply learned or diffused directly, induce the writer to propose that increase of contacts, bringing about heterogeneity and disorganization of culture, constitutes one sufficient cause of secularization and individualization.[10]

Hence cultural disorganization is viewed as being influenced by certain ecological spatial variables affecting the extent of contact: (a) the ecological (or time-cost) distance of the Indian community from the nearest urban centers;[11] (b) the size of the populations of the urban centers;[12] and (c) the size of the population of the rural Indian community.[13] (This last notion is clearly not supported by Redfield for Yucatan[14], but it is supported by other writers for the United States).[15]

This study utilizes data obtained from government census reports, household interview schedules, and field observation.

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[10] Redfield, op. cit., p. 369. Italics mine. See also: (a) Redfield, ibid., p. 339; (b) cf.: Stephen T. Boggs, "Culture Change and the Personality of Ojibwa Children," American Anthropologist, LX (1958), p. 47; and (c) A. Irving Hallowell, "Ojibwa Personality and Acculturation in the Americas: Proceedings and Selected Papers of the XXIXth International Congress of Americanists, (editor, Sol Tax; Chicago: University of Chicago Press, 1952), pp. 105-112.

[11] See: (a) Redfield, op. cit., p. 13, 14, 338; (b) Zipf, op. cit., pp. 393-401, 408; (c) Walter T. Martin, "Ecological Change in Satellite Rural Areas," American Sociological Review (referred to hereafter as ASR), XXII (April, 1957), reprinted in Theodorson, SIHE, p. 610.

[12] See: (a) Zipf, loc. cit.; (b) Martin, loc. cit.

[13] See: Zipf, loc. cit.

[14] See: Redfield, op. cit., p. 371.

[15] See: Zipf, loc. cit.

B. FRAME OF REFERENCE

Two of the terms used to state the problem are defined for the purpose of this study as follows:

The term "economic dependence" is defined as the condition in which a human population depends regularly for its subsistence either in whole or in part on public funds, this support carrying no obligation of repayment.

The term "community" is defined here as used by Redfield: "In so far as any defined human aggregate . . . may also be said to occupy a territory, it is a community."[16]

The significance of spatial and sustenance relationships has been indicated by a number of theorists in human ecology. McKenzie, a classical theorist, states:

> . . . social organization accommodates itself to the spatial and sustenance relationships existing among the occupants of any geographical area. . . .
>
> The spatial and sustenance relations in which human beings are organized are ever in a process of change in response to the operation of a complex of environmental and cultural forces.[17]

Quinn, a neo-orthodox theorist, states that:

> . . . the ecological . . . level of interaction . . . involves an impersonal relation in which each unit influences the others merely by increasing or decreasing some scarce type of environmental resource or by changing ecological distance between them.[18]

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[16] Redfield, op. cit., pp. 15-16.

[17] R. D. McKenzie, "The Scope of Human Ecology," Publications of the American Sociological Society, XX (1926), reprinted in Theodorson, SIHE, p. 30.

[18] Quinn, Human Ecology, op. cit., p. 296. See Chapter Two for a more complete definition of environmental resources.

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The concepts used by Quinn and used in this study are: ecological interaction, ecological structure, ecological distance, and gradient. The concepts used by Redfield and used in this study are: social gradient, isolation, and cultural and social disorganization. The concept of personal disorganization is also used. These concepts are defined in due course. Zipf's $\frac{P_1 P_2}{D}$ hypothesis is used in modified form to state empirically the relationship of the factors involved in the gradient concept as used by Redfield with his Yucatan data.

Although Redfield's book is not written essentially from a human ecological point of view, the ecological concept of gradient figures prominently in the work. This study attempts to take this concept, used by Redfield to describe the inverse relationship between cultural disorganization and isolation, and to extend its use to deal with economic dependence.

Although Quinn describes Zipf's book as "A broad interpretation of human behavior based on a principle basic to human ecology,"[19] he also says that it "Covers a much wider scope than the field of human ecology as conceived by most authors."[20]

Regarding the effect of space or distance on human movement and migration, Quinn in his book brings forward not findings of his own but those of Stouffer and Zipf. Although he indicates the "need for caution" in the use of Stouffer's hypothesis[21] he says regarding

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[19] Ibid., p. 17.

[20] Loc. cit.

[21] See: Samuel A. Stouffer, "Intervening Opportunities: A Theory Relating Mobility and Distance," ASR, V (December, 1940), pp. 845-67.

Zipf's hypothesis[22] that: "His data show sufficient correlation to indicate the probably general validity of his hypothesis."[23]

At present human ecologists do not agree on the proper content of human ecology, especially regarding culture. Quinn emphasizes ecological as opposed to social interaction and allows culture a minor role in spatial and sustenance relationships.[24] However, by the addition of Redfield's concepts, the social and cultural components of human interaction can be dealt with more effectively.

In this analysis of factors related to economic dependence the modified human ecological frame of reference used is as follows:

The concept of ecological interaction is used by Quinn as defined earlier.[25]

Quinn also states:

> . . . Ecological interaction--wherein men influence the limited supplies of land, resources and jobs upon which other men depend--underlies the basic spatial and functional structure of modern American communities.[26]

The concept of ecological structure is used as follows:

> Ecological structure consists of that distinctive, impersonal, subsocial aspect of community or regional

---

[22] See: (a) Zipf, "The $\frac{P_1P_2}{D}$ Hypothesis: On the Intercity Movement of Persons," ASR, XI (December, 1946), pp. 677-86; also (b) Zipf, Human Behavior, op. cit., pp. 393-401, 408.

[23] Quinn, Human Ecology, op. cit., p. 381.

[24] See: (a) ibid., p. 296; (b) Quinn, "The Nature of Human Ecology. . . ," op. cit., p. 140; (c) Quinn, "Discussion of Hollingshead's Community Research: Development and Present Condition,'" ASR, XIII (April, 1948), reprinted in Theodorson, SIHE, p. 142; (d) Quinn, "Human Ecology and Interactional Ecology," ASR, V (October, 1940), pp. 721-22.

[25] See: footnote 18 and reference, p. 4.

[26] Quinn, "The Nature of Human Ecology. . . ," op. cit., p. 139.

[20] Quinn, "The
[20] Quinn, "The
[20] Quinn, "The
[20] Quinn, "The
[20] Quinn, "The

> organization which arises and changes through the operation of ecological interaction. . . .
>
> This ecological structure of community life presents two distinctive but interrelated aspects--(1) that of spatial organization, and (2) that of the functional division-of-labor nexus through which men obtain their living.[27]

These two aspects of ecological structure and process--the spatial and the functional--correspond approximately to the spatial and sustenance relations mentioned earlier.

Ecological distance is distinguished from other types of distance in the following statement by Quinn:

> Spatial distance, which in its narrowest sense is linear distance, may be measured in feet or miles; social distance is described, if not measured, in terms of intimacy or of subordination-superordination; ecological distance may be measured in terms of costs of movement from one location to another (including time-cost, operating cost, depreciation and repair of equipment, etc.).[28]

Quinn also says that "When other factors remain equal, costs of transportation vary with the linear distance.[29]

Although Quinn says "The concept of gradient refers to the regular rate of increase or decrease of a variable across a given distance,"[30] Martin states the gradient principle in a form more useful for the purpose of this study, as follows:

---

[27] Ibid., p. 140. Italics mine.

[28] James A. Quinn, "The Hypothesis of Median Location," ASR, VIII (April, 1943), p. 149. Italics mine.

[29] Quinn, Human Ecology, op. cit., p. 273.

[30] Ibid., p. 275. Italics mine.

> the extent of urban-influenced changes in rural areas varies inversely with distance to the nearest city and directly with the size of that city.[31]

Martin continues:

> It can be hypothesized that with increasing technological development the slope of the gradient would become less steep.[32]

Zipf uses the gradient principle implicitlyin his statement of the $\frac{P_1P_2}{D}$ hypothesis. He contends with supporting data that:

> the number of persons that move between any two communities in the United States whose respective populations are P_1 and P_2 and which are separated by the shortest transportation distance, D, will be proportionate to the ratio, $\frac{P_1P_2}{D}$; subject to the effect of modifying factors.[33]

Redfield uses the term social gradient to refer to the spatial distribution, according to the gradient principle, of certain "social and cultural characters"[34] including cultural disorganization,[35] in Yucatan. He says:

> . . . Yucatan, considered as one moves from Merida southeastward into the forest hinter-land, presents a social gradient in which the Spanish, modern and urban gives way to the Maya, archaic, and primitive.[36]

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[31] Martin, op. cit., p. 610. All italicized in original.

[32] Loc. cit.

[33] Zipf, "The $\frac{P_1P_2}{D}$ Hypothesis . . .", op. cit., p. 677. Referred to by Quinn in Human Ecology, op. cit., p. 381-82. See also: Zipf, Human Behavior . . . , op. cit., pp. 393-401, 408.

[34] Redfield, op. cit., p. 338.

[35] See: ibid., pp. 339, 369.

[36] Ibid., p. 13. Italics mine.

Indicating what Martin calls ". . . a gradient which declines in accord with diminishing communication and transportation facilities",[37] Redfield describes four contemporary communities

> . . . differing chiefly with respect to the degree to which each has been affected by communication with a single important center of modifying influence. . . .[38]

He continues:

> Dzitas, Chan Kom, and Tusik are in that order increasingly distant from Merida, where social change, for Yucatan, originates and from which social and political influence emanates.[39]

Regarding Merida, Dzitas, Chan Kom, and Tusik, he continues:

> . . . in that order each is less homogeneous, . . and is less isolated or more mobile than the next.[40]

Redfield defines his concept of isolation as follows:

> A society is isolated to the extent that contacts among members of the local society (community) are many and intimate and characterized by a high degree of mutual understanding of much of the mental life of one another, while contacts between members of the local society and outsiders are few, not intimate, and characterized by a lower degree of mutual understanding.[41]

Redfield's use of the concepts of culture and society is indicated in the two following statements:

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[37] Martin, op. cit., p. 610.

[38] Redfield, op. cit., p. 338.

[39] Ibid., p. 14.

[40] Ibid., p. 16. Italics mine. Redfield also refers to "social and spatial mobility", ibid., p. 31.

[41] Loc. cit.

> . . . the social relations which define societies exist in terms of those conventional understandings we call "culture" . . . . In so far as any defined human aggregate is characterized by social relations, it is a society.[42]

He defines culture as follows: ". . . culture is an organization of conventional understandings manifest in act and artifact."[43] Organization as opposed to mere aggregation of the elements of the culture is indicated by the degree of "interrelation of parts and inner consistency."[44]

Thus cultural disorganization may be defined as the

> . . . decrease in the degree of organization of the customs and institutions and in all the elements of conventional understanding.[45]

The concept of social disorganization is used by Redfield[46] as defined by Thomas and Znaniecki as a

> . . . . decrease of the influence of existing social rules of behavior upon individual members of the group.[47]

The concept of personal disorganization refers in this study to what Thomas and Znaniecki call individual disorganization and demoralization:

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[42] Ibid., p. 15. Italics mine.

[43] Ibid., p. 133.

[44] Loc. cit.

[45] Ibid., p. 154. See also ibid., p. 361.

[46] See: ibid., pp. 356-57.

[47] Thomas and Znaniecki, op. cit., p. 1128. All italicized in original.

> . . . individual disorganization. . . consists in a decrease of the individual's ability to organize his whole life for the efficient, progressive and continuous realization of his fundamental interests.[48]

"Demoralization is the decay of the personal life-organization of an individual member of a social group."[49]

It should be observed that the concepts of cultural, social, and personal disorganization are interdependent, but as Parsons points out,

> No two or more entities can be interdependent which are not at the same time independent in certain respects.[50]

The two variables mentioned in Quinn's definition of ecological interaction[51] are used as the primary basis for the analysis of empirical materials in this study.

The first variable relates to the increasing or decreasing supply of limited environmental resources on which other units depend. (In this study units are considered as household units, and for certain purposes, individuals). This variable is used as the basis for the analysis of sustenance relations and their influence on economic dependence. Concepts utilized include ecological interaction and ecological structure.

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[48] Loc. cit.

[49] Ibid., p. 1647.

[50] Talcott Parsons, The Structure of Social Action (Glencoe, Illinois: The Free Press, 1949), p. 25.

[51] See footnote 18 and reference, p. 4.

The second variable relates to the changing ecological distance between units. This variable is used as the basis for the analysis of spatial relations and their influence on economic dependence. Concepts utilized include: ecological distance, gradient, social gradient, isolation, and disorganization: cultural, social, and personal.

C. HYPOTHESES

From the above frame of reference based on certain works of Quinn, Zipf, and Redfield, it can be predicted that:

Regarding sustenance relationships

the degree of economic dependence, or dependence on public assistance, of a human population varies

1. inversely with the number of potential bread-winners in the population, relative to the size of the population.
2. inversely with the abundance of the limited supply of environmental resources, relative to the size of the population depending on those resources.
3. inversely with the amount of participation by the population in sustenance activities, relative to the size of the population.
4. inversely with the "scale of living" of the population as this is measured by a variety of variables. (See Chapter Two, Methodology).

Regarding spatial relationships

the degree of economic dependence, or dependence on public assistance, of a human population varies

5. inversely with the ecological distance between the Indian center of population and the nearest urban center of population, relative to the size of the Indian population and relative to the size of the population of the nearest urban center.
6. directly with the amount of cultural, social, and personal disorganization exhibited by the Indian Reserve population, as measured by a variety of variables (See Chapter Two, Methodology), and relative to the size of the Indian Reserve population.

D. PREVIEW OF THESIS ORGANIZATION

The remainder of the thesis is concerned with giving the methodology and the results. In Chapter II the methodology is given. In Chapter III the results are presented. Chapter IV is the conclusion which includes a brief summary of selected findings in the related literature.

CHAPTER II

METHODOLOGY

A. SCOPE

This chapter explains the methods by which the hypotheses in Chapter One were tested. It outlines the scope of the study and describes how the data were collected and analyzed. It gives the operational definitions of the hypotheses.

The modified socio-ecological frame of reference described in Chapter One was used for the analysis of factors related to economic dependence among four rural Dakota communities in Saskatchewan.

Theoretically the analysis focussed on: (a) sustenance relationships, utilizing the concepts of ecological interaction and ecological structure[5], and (b) spatial relationships, utilizing the concepts of ecological distance, gradient and social gradient, isolation, and cultural, social, and personal disorganization. The analysis was restricted to an inter-community (Indian Reserve) comparison.

The primary data were obtained through the use of household interview schedules, from field observations and government census reports, and through personal correspondence of the writer. Statistical and mathematical methods were used to analyse the data.

This analysis, focussing on four Indian communities in Saskatchewan, was placed in a context of findings from the literature. These findings result from a review of the sociological and anthro-

pological literature for factors related to economic dependence among various Indian groups in Canada and the United States, using the frame of reference presented in Chapter One. A brief summary of selected findings is included in Chapter Four, the Conclusion.

B. COLLECTION OF DATA

The ways in which the data were collected can be categorized simply as (a) field work, and (b) office and library work. The field work involved general interviews with representatives of the four Dakota communities (chief, councillors, and others); with teachers, nurses, clergymen, police and Indian Affairs Branch officials related to the four communities; and with several non-Indian farmers, merchants, and others who live in the regions adjacent to the communities.

The field work also involved the conducting of a household survey. The two-page Household Questionnaire Form (See Appendix VII.A) was used openly as an interview schedule in the two communities which gave the writer consent to conduct the survey among their band members, Wood Mountain and Standing Buffalo.

In the other two communities, which initially rejected (either formally or informally) the conducting of the survey among their band members, the procedure was slightly different. Eventually, after informal visiting over a longer period of time (nearly two years), the interview schedule was used with representatives of six of the twelve households at Round Plain. A highly cooperative informant and a government Band Register aided in completing the remaining schedules. For Moose Woods, the data comes from association

with the people over a period of two and a half years. Church baptismal records were also used. Income data on the two latter communities is considered to be slightly less reliable than on the two former communities. Household interview schedule coverage ranged from 74 per cent of the total number of households in Standing Buffalo, the Indian Reserve community of the largest population (sixty-one households) to 100 per cent with the others, as qualified above.

In addition, the field work involved field observation and the taking of field notes in a diary since the time the study began, December, 1961. The writer occupied the position of student minister (weekend lay preacher) in one of the communities, Moose Woods, for eighteen months in the course of the study. He has visited most of the communities several times in both winter and summer, and has either lived with a particular family (as in two communities) or has camped by himself.

The office and library work was carried on over most of the two-year study period. Library research included a review of the relevant anthropological and sociological literature as previously mentioned. Data was also obtained from government records, other historical documents, maps, and government census reports available at this university. Through correspondence with government departments further data was obtained, in particular regarding the Indian Affairs Branch Surveys of Public Assistance (See Appendix I).

C. ANALYSIS OF DATA

The statistics used in the analysis were r, rho, and X^2. The primary correlation test was the Pearsonian coefficient of

linear correlation (r).[52] It was used to test the hypotheses regarding the relationship of various factors (designated as "X" variables) to economic dependence (designated as the "Y" variable) by relating sets of percentages representing these factors. The chi-square (X^2),[53] was used to establish the significance of differences between the four communities as regards these various variables. The tentative rank orders, thus corrected for significance of difference with the chi-square, are then arranged in X-Y pairs and operated on using the secondary test of correlation, Spearman's coefficient of rank-order correlation (r_s).[54] This test was used to provide a general indication of the type of relationship of the selected variables to economic dependence by comparing the corrected rank orders. Because of the small number of cases used (only four communities in inter-community analysis) this test cannot be expected to provide results of a very high order of accuracy in instances of several tied ranks. In all cases in these three tests, only results above the .05 level of significance were accepted. Two other tests were also used. These are not tests of specific operational hypotheses but are summary tests to provide a general picture of the pattern of relationship of the variables. They are simplified versions of the sum-of-ranks test and the sum-of-sign-ranks test.[55]

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[52] See: (a) Hubert M. Blalock, Jr., Social Statistics (New York: McGraw-Hill Book Company, Inc., 1960), pp. 285-299; (b) Murray R. Spiegel, Schaum's Outline of Theory and Problems of Statistics (New York: Schaum Publishing Company, 1961), pp. 243-45, 253-54.

[53] See: (a) Blalock, op. cit., pp. 212-41; (b) Spiegel, op. cit., pp. 201-13.

[54] See: (a) Blalock, op. cit., pp. 317-25; (b) Spiegel, op. cit., pp. 246, 259-60. "r_s" is commonly designated as "rho".

[55] See: (a) Blalock, op. cit., pp. 197-209.

D. OPERATIONAL DEFINITIONS OF HYPOTHESES

"The definition of any term for research is a difficult task," states James M. Rollins,

> because scientists use two languages and thereby two kinds of definitions. The first may be called theoretical and the second operational. In addition, there is always the possibility of having a number of operations or indices associated with any given theoretical concept.[56]

Blalock states regarding the testing of hypotheses:

> . . . . the actual test is made in terms of the concepts as operationally defined. Propositions involving concepts defined theoretically are therefore not directly testable.[57]

The theoretical or nominal definitions of the most important concepts used in this study were presented in chapter one. In this section the indicators or operational definitions used to define these concepts quantitatively are given. Accompanying the theoretical definitions which are presented first, the operational hypotheses for the inter-community (Indian Reserve) comparison are as follows:

Regarding sustenance relationships:

Hypothesis 1.

The degree of economic dependence of a human population varies inversely with the number of potential breadwinners in the population, relative to the size of the population. More simply, economic dependence varies as the ratio: population to potential breadwinners.

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[56] James M. Rollins, "Two Empirical Tests of a Parsonian Theory of Family Authority Patterns", The Family Life Co-ordinator, XII (January-April, 1963), p. 9.

[57] Blalock, op. cit., pp. 10-11. All italicized in original.

The degree of economic dependence of a human population refers operationally to the mean number of months per family public assistance was received over a period of time; in this case, three years. This is estimated by using the following ratio: the sum of the number of public assistance "family-months" for five consecutive semi-annual Surveys of Public Assistance, February 1961 to February 1963,[58] multiplied by a constant, divided by the number of "family units" in the community in 1962.[59]

This expression is designated in abbreviated form as "the mean number of public assistance family-months per family unit." This operational definition of the degree of economic dependence is used for all the hypotheses of this study. The value of the constant and the maximum value for this expression for each community is calculated in Chapter Three.

This public assistance includes only relief food assistance.[60] It does not include other types of government social security,[61] relief clothing or relief fuel, "band relief" food distributions, etc. Since each of the Surveys covers a twelve-month period, doubtless some over-

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[58] See: Personal Correspondence of the Writer, letter from R. F. Battle, Director, Indian Affairs Branch, Ottawa, Feb. 4, 1964, Appendix 3 (Tabulation from IBM cards of Surveys of Public Assistance . . . January, 1964, 40 pp.)., reproduced in part in Appendix I.C. of this study.

[59] See the same source, Appendix 2 (Survey of Indians' Earnings and Dwellings--Selected Reserves in Saskatchewan--1962, 1 p.), reproduced in Appendix I.B of this study.

[60] See the same source, Appendix 1, p. 2 (Interpretation of Statistics, Surveys of Public Assistance . . . 2 pp.), reproduced in Appendix I.A of this study.

[61] For detail regarding amounts and sources of household income, see Appendix VII.B.5, showing findings of the field study.

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see Appendix VII.B.

lapping has occurred. However, this is assumed to have a constant effect and is not expected to have altered the relative rates of public assistance of the four communities.

The human population is defined operationally as the "resident population" of the particular Indian Reserve in a given year.[62,63] It includes those residing in the Indian Reserve over six months of the year, and students attending residential schools, who may be home for only a few months in a year. It is not necessarily identical to the number of members of the band.[64]

The number of potential breadwinners is defined operationally as the number of persons in the population who are 20 to 64 years of age, inclusive, in a given year.[65,66]

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[62] See: Personal Correspondence of the Writer, (a) letter from O. A. Lemieux, Director, Census Division, Dominion Bureau of Statistics, Ottawa, Nov. 15, 1962 (Summary Data for Selected Indian Reserves, Canada Censuses of Population, 1901 to 1961); and (b) letter from J. L. Forsyth, Assistant Director, Census Division, Dominion Bureau of Statistics, Ottawa, May 14, 1963 (Summary Data for Selected Indian Reserves, Canada Censuses of Population, 1901 to 1961). These data are both reproduced in part in Appendix II.B of this study.

[63] Cf.: Personal Correspondence of the Writer, letter from R. F. Battle, Appendix 2, cited earlier, reproduced in Appendix I.B in part.

[64] For official definition of "band", see: Canada, Department of Citizenship and Immigration, The Indian Act, Office Consolidation (Ottawa: 1957), Section 2 (1) (a).

[65] See: Personal Correspondence of the Writer, letter from J. L. Forsyth, Assistant Director, Census Division, Dominion Bureau of Statistics, Ottawa, Oct. 30, 1963, Appendix 2 (1961 Census Data for Selected Enumeration Areas, 4 pp.), reproduced in part in Appendix II.C of this study.

[66] Cf.: (a) Canada, Department of Citizenship and Immigration, Census of Indians in Canada, 1949; 1954; 1959; (b) Canada, Department of Indian Affairs, Census of Indians and Eskimos, 1924; Canada, Department of Indian Affairs, Census of Indians in Canada, 1929; 1934; (c) Canada, Department of Mines and Resources, Census of Indians in Canada, 1939; 1944.

The operational hypotheses in the inter-community comparison are:

1. the mean number of public assistance family-months per family unit in the Indian Reserve Community
   (a) varies directly as the ratio of the numerical increase in the resident population of the Indian Reserve from 1946 to 1961,[67] to the size of the 1946 resident population;[68]
   (b) varies inversely as the ratio of the size of the resident population 20 to 64 years of age,[69] to the size of the total resident population of the Indian Reserve, in 1961.[70]

Hypothesis 2.

The degree of economic dependence of a human population varies inversely with the abundance of the limited supply of environmental resources, relative to the size of the population depending on those resources. More simply, economic dependence varies as the ratio of population to resources.

In this study only one type of environmental resources is defined operationally. Ignoring instability of grain market or livestock market, assuming equivalent standards of land evaluation for the four communities, and ignoring differences in local meanings given to the resources, agricultural resources are defined operationally as the estimated value of the land in the Indian Reserve.[71] This

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[67,68] Dominion Bureau of Statistics data; see Appendix II.B.

[69,70] Dominion Bureau of Statistics data; see Appendix II.C.

[71] Cf.: Personal Correspondence of the Writer, letter from J. L. Forsyth, Assistant Director, Census Division, Dominion Bureau of Statistics, Ottawa, June 4, 1963, Appendix 2 (Summary Data, Canada Census of Agriculture, 1961), reproduced in part in Appendix VI.A.

value is based on its "suitability for grain production, more particularly of wheat",[72] assuming dryland farming, not irrigation methods. Indian Reserve land can be leased by the Indian band as a source of revenue,[73] as well as farmed by band members.

The operational hypotheses used are:

2. The mean number of public assistance family-months per family unit in the Indian Reserve Community

   (a) varies directly as the ratio of the size of the resident population of the Indian Reserve in 1961,[74] to the area of the Indian Reserve (in square miles) in 1964;[75]

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[72] J. Mitchell, H. C. Moss, and J. S. Clayton, Soil Survey of Southern Saskatchewan From Township 1 to 48 Inclusive (Soil Survey Report No. 12; Saskatoon, Sask.: University of Saskatchewan, 1944), p. 195.

See also: (a) J. Mitchell, H. C. Moss, and J. S. Clayton, Soil Survey of Saskatchewan Covering the Agriculturally Settled Areas North of Township 48 (Saskatchewan Survey Report No. 13; Saskatoon, Sask.: University of Saskatchewan, 1950), p. 192; and (b) T. H. Freeman, W. E. Thompson and C. H. Chappell, The Saskatchewan System of Rural Land Assessment (second edition; Regina, Sask.: Department of Municipal Affairs, 1950).

[73] See: The Indian Act, op. cit., Section 58 (1).

[74] Source: Dominion Bureau of Statistics. See footnote 62; see also Appendix II.B.

[75] See: Personal Correspondence of the Writer, letter from J. G. McGilp, Regional Supervisor of Indian Agencies, Saskatchewan, Indian Affairs Branch, 216 Federal Building, Saskatoon, Sask., March 26, 1964. The data appears in Appendix III.

(b) varies directly with the number of Indians registered in bands on Indian Reserves within a thirty-mile radius of the center of the given community;[76]

(c) varies directly as the ratio of the size of the population of the adjacent Rural Municipality in 1961,[77] divided by the area of the Rural Municipality (in square miles) in 1961-62;[78]

(d) varies inversely with the per capita assessment of the adjacent Rural Municipality in 1961-62;[79]

(e) varies inversely with the "Hypothetical land assessment" of the Indian Reserve, per capita, in 1962-63.[80]

Hypothesis 3.

The degree of economic dependence of a human population varies inversely with the amount of participation by the population in sustenance activities, relative to the size of the population. More simply, economic dependence varies as the ratio of population to sustenance activity.

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[76] See: (a) Saskatchewan, Department of Natural Resources, Map of Saskatchewan (produced 1954); and (b) Canada, Department of Citizenship and Immigration, Indian Affairs Branch, Traditional Linguistic and Cultural Affiliations of Canadian Indian Bands (Ottawa: 1963). Populations of relevant bands are shown in Appendix II.G.

[77] See: Saskatchewan, Department of Municipal Affairs, Annual Report, 1961-62, schedule no. 28.

[78] See the same source, schedule no. 28.

[79] See the same source, schedule no. 32.

[80] For details on how this assessment was conducted, see Appendix V.

Actual breadwinners are defined operationally as persons in the population who were engaged in income-producing tasks at some time during the year.[81] This includes (a) wage employment, and (b) self-employment in farming, bush work, trapping, etc.

The amount of sustenance activity participated in is defined operationally as the number of "man-months" worked in wage-employment and/or self-employment by persons in the population in a twelve-month period.[82]

The amount of sustenance activity participated in, in terms of its economic value, is defined operationally as earned income received by the population, or more specifically, the net income received from wage-employment and self-employment in a twelve-month period.[83]

The operational hypotheses used are:

3. The mean number of public assistance family-months per family unit in the Indian Reserve community.

   (a) varies inversely as the ratio of the size of the population

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[81] See: Summary Tabulation of Results of Household Interview Schedule in Appendix VII.B. of this study, section 5, "Occupation and Income".

[82] See the same source.

[83] Net earned income equals gross earned income less expenses of the breadwinning operation (for example, a chain saw, tractor, gasoline, seed wheat, but not clothing, food, shelter). Net earned income besides wages and receipts for products sold includes unemployment insurance benefits, other insurance benefits, D.V.A. allowances, foster child allowance, Prairie Farm Assistance Act payments, cash returns from land rented out individually, band relief distributions, and the estimated value of home-used farm and forest products. It does not include Family Allowances or other government social security payments. Net earned income is also referred to as earned personal income.

resident on farms[84] to the size of the total resident population in 1961.[85]

(b) varies inversely as the ratio of the estimated number of "man-days" of labor worked by persons in the resident population in a stated twelve-month period in 1962-63,[86] to the size of the resident population in 1962-63.[87]

(c) varies inversely as the ratio of the total earned personal income,[88] to the total personal income[89] received by the resident population in a stated twelve-month period in 1962-63.

(d) varies inversely as the ratio of the total earned personal income[90] received by the resident population in a stated twelve-month period in 1962-63, to the number of households in the community.[91]

(e) varies inversely as the ratio of the total earned personal income[92] received by the resident population in a stated twelve-month period in 1962-63, to the size of the resident population of the community.[93]

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[84]Source: Dominion Bureau of Statistics; see Appendix II.C. 1 and 2.

[85]See the same source.

[86]Source: field study; see Appendix VII. B.5.a.

[87]Source: field study; Appendix VII. B.1.a or Appendix II.D.

[88,89]Source: field study; see Appendix VII. B.5.b.

[90,91]See Appendix VII. B.5.c.

[92,93]See the same source.

Hypothesis 4.

The degree of economic dependence varies inversely with the "scale of living" of the population as this is measured by a variety of variables.

The scale of living of a population was defined operationally in two ways:

(a) as the mean household score obtained by the use of Sewell's 1943 Short Form of his Farm Family Socioeconomic Status Scale (a scale which was once standardized but is now in need of revision for general use because of the change in standard of living and scale of living since 1943);[94] and

(b) as the mean household score obtained by the use of a "level of living" scale constructed by the writer (a non-standardized scale).[95]

The operational hypotheses used are:

4. The mean number of public assistance family-months per family unit in the Indian Reserve community
   (a) varies inversely with the mean household score obtained in Sewell's 1943 Short Form of the Farm Family Socioeconomic Status Scale;[96]
   (b) varies inversely with the mean household score obtained on the writer's "level of living" scale.[97]

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[94] See: William H. Sewell, "A Short Form of the Farm Family Socioeconomic Status Scale," Rural Sociology, VIII (1943), pp. 161-170; the form is reproduced as Appendix VIII.A.

[95] See Appendix VIII.B for the form used; cf.: Prodipto Roy and Della M. Walker, The Assimilation of the Spokane Indians (Washington Agricultural Experiment Stations Bulletin 628; Pullman, Washington: May, 1961), pp. 30-33.

[96,97] See: Appendix VIII.C for summary data.

That concludes the hypotheses regarding sustenance relationships.

Regarding spatial relationships:

Hypothesis 5.

> The degree of economic dependence of a human population varies inversely with the ecological distance between the Indian center of population and the nearest urban center of population, relative to the size of the Indian population and relative to the size of the population of the nearest urban center. More simply, economic dependence varies as the ratio of $Population_1$ multiplied by $Population_2$, to the Distance 1-2; in other words, $\frac{P_1P_2}{D}$.

This expression is based on Zipf's $\frac{P_1P_2}{D}$ hypothesis regarding the inter-city movement of persons.[98] On the basis of certain works of Anderson, in particular, and of several other writers, the present writer has modified Zipf's formula.

Anderson, after reviewing a number of studies which test Zipf's hypothesis, concludes that:

> there are several important sources of error in the formula proposed by Zipf . . . there is evidence that distance should receive greater weight and population less weight in the formula $\frac{P}{D}$.
>
> With reference to distance . . . either a constant power between 1 and 2 is called for or distance should be raised to a variable power.[99]

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[98] See: George Kingsley Zipf, "The $\frac{P_1P_2}{D}$ Hypothesis: On the Intercity Movement of Persons," ASR (December, 1946), pp. 677-86.

[99] Theodore R. Anderson, "Intermetropolitan Migration: A Comparison of the Hypotheses of Zipf and Stouffer," ASR, XX (June, 1955), p. 290.

Anderson goes on to consider a hypothesis which implies the latter alternative. It states that:

> . . . the power to which distance should be raised is inversely related to the size of the source subregion (source metropolis).[100]

The specific formula tested by Anderson was

$$m = aP^{.75WD^{-x}},$$

where m = the number of migrants in a given stream,

a = a constant of proportionality,

P = the size of the population of a terminal subregion,

D = the highway mileage between the source and terminal subregions,

W = 1 or 1.5 (1 if the terminal subregion is outside of the state),

and $X = 1 + \frac{125{,}000}{P_s}$, where P_s = the size of the source subregions.[101]

Thus Anderson changes the P_2 factor in Zipf's hypothesis from a factor to an exponent of the distance. He also appears to equate human movement with migration.

Support for the view that the exponent of the distance factor should be greater than one in this type of expression is given by E. C. Young,[102] Charles T. Stewart,[103] and John Q. Stewart.[104]

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[100] Loc. cit.

[101] Loc. cit.

[102] Cited by Anderson, ibid., p. 287.

[103] Charles T. Stewart, "Migration as a Function of Population and Distance", ASR, XXV, (June, 1960), p. 356.

[104] John Q. Stewart, "Demographic Gravitation: Evidence and Applications," Sociometry, XI (February-May, 1948), pp. 31-58.

S. C. Dodd[105] uses the first power of the distance but makes allowance for other exponents.

In this study the expression of the gradient principle which is used (to measure the extent of movement, hence of contact, hence of cultural, social, and personal disorganization resulting from contact with outsiders) is as follows:

$$I = \frac{(P_1 P_2)^{1/2}}{D^2}$$

where I = extent of contact

P_2 = size of population of urban center

P_1 = size of population of Indian community

D = ecological distance between A and B

This study does not attempt to determine which is the more important mechanism of social disorganization in the contact situation: (a) ecological interactions, through disruption of sustenance roles, and thus other roles, in the family, because of depletion of environmental resources and increase of population; or (b) social interaction, through disruption of sustenance roles and hence other roles in the family because of the learning of conflicting behavior patterns, self-concepts, and values. Redfield leaves the way open for either mechanism.[106]

Ecological distance is defined operationally as the shortest linear distance in road-miles.[107] (Thus it is assumed that modes of

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[105]Stuart Carter Dodd, "The Interactance Hypothesis," ASR, XV (April, 1950), pp. 245-256.

[106]See: Robert Redfield, The Folk Culture of Yucatan (Chicago: University of Chicago Press, 1941), p. 361.

[107]Obtained by use of household interview schedules, (checked ~~by maps and speedometer~~ mileage). See Appendix IX.

~~by maps and speedometer~~ mile
~~by maps and speedometer~~ mile

transport, rate of travel, and passability of roads are similar, comparing the four Indian reserves).[108]

The operational hypothesis used is:

5. The mean number of public assistance family-months per family unit in the Indian Reserve community

(a) varies directly as

$$I = \frac{(P_1 P_2)^{1/2}}{D^2}$$

where P_1 = size of Indian Reserve resident population in 1962-63[109]

P_2 = size of population of nearest urban center in 1961[110]

D = shortest linear distance between them measured in road miles.[111]

Hypothesis 6.

The degree of economic dependence of a human population varies directly with the amount of cultural, social, and personal disorganization exhibited by the Indian Reserve population, as measured by a variety of variables, and relative to the size of the Indian Reserve population. More simply, economic dependence varies as the ratio of disorganization to population.

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[108] This has not been so in the past, but adequate historical data to develop a comparison are lacking.

[109] See Appendix II.D. cited earlier.

[110] See: (a) Map of Saskatchewan, cited in footnote 76; and (b) Saskatchewan Department of Municipal Affairs, Annual Report, op. cit., schedule nos. 25, 26 and 27. "Urban centers" refers to cities, towns, and villages, and in this case, hamlets.

[111] See footnote 107.

The position that economic dependence is related to cultural, social, or personal disorganization is supported by a number of writers, including Thomas and Znaniecki,[112] Lind,[113] and Frazier.[114]

Cultural disorganization is defined operationally in two ways: (a) the ratio of the number of unmarried mothers,[115] to the total number of mothers, in the resident population in 1962-63, not including widows;[116] (b) the ratio of the number of illegitimate children,[117] to the total number of children aged nineteen and under, in the resident population in 1962-63;[118] and (c) the number of persons charged in courts of law with drunk-disturbance-disorderly offenses (1957 to

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[112] See: W. I. Thomas and Florian Znaniecki, The Polish Peasant in Europe and America, Volume II (New York: Dover Publications, Inc., 1958), pp. 1652, 1655, 1691, and 1695.

[113] Andrew W. Lind, "Some Ecological Patterns of Community Disorganization in Honolulu," American Journal of Sociology, (referred to hereafter as AJS), XXXVI (September, 1930), reprinted in Theodorson, SIHE, pp. 431-34.

[114] E. Franklin Frazier, "Negro Harlem: An Ecological Study," AJS, XLIII (July, 1937), reprinted in Theodorson, SIHE, p. 166.

[115,116] Source: field study, household interview schedules (untabulated data).

[117] Source: field study.

[118] Source: field study; see Appendix II.D.

1962 inclusive),[119] to the total number of persons in the resident population, aged fifteen and over in 1962-63.[120]

Social disorganization is defined operationally as the ratio of the number of married residents who have separated from their legal spouses since 1950 and remain so,[121] to the total number of married and widowed residents of the community in 1962-63.[122] "Separated" here includes cases of desertion as well as legal separation. "Married" status refers here to cases of legal marriage. Separated persons may now be living with another mate.

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[119] See: (a) Diary, Fri. July 13, 1962 (Source: Saskatoon City Police Court Card File, data copied by writer); (b) Diary, Thurs. Dec. 13, 1962 (Sources: (i) Prince Albert City Police Court Card File, data obtained as photostats); (ii) Royal Canadian Mounted Police, Prince Albert sub-division, data obtained by letter from card files); (c) Diary, Wed. March 6, 1963 (Source: Fort Qu'Appelle Town Police, general data obtained in conversation); (d) Diary, Thurs. May 30, 1963 (Source: Royal Canadian Mounted Police, Hanley Detachment, data obtained vocally from card files); (e) Diary, Sat. June 1, 1963 (Source: Royal Canadian Mounted Police, Mankota detachment, general data obtained in conversation). The foregoing data are summarized in Appendix X.

[120] Source: field study; see Appendix II.D.

[121,122] Source: field study, household interview schedules (untabulated data).

Personal disorganization is defined operationally as the ratio of the number of persons charged in courts of law with all offenses not including drunk-disturbance-disorderly offenses and traffic offenses (1957 to 1962 inclusive),[123] to the total number of persons in the resident population, aged fifteen and over in 1962-63.[124]

The operational hypotheses used are:

6. The mean number of public assistance family-months per family unit in the Indian Reserve community
   (a) varies directly as the ratio of the number of unmarried mothers,[125] to the total number of mothers, in the resident population, not including widows, in 1962-63;[126]
   (b) varies directly as the ratio of the number of illegitimate children,[127] to the total number of children aged nineteen and under, in the resident population in 1962-63;[128]
   (c) varies directly as the ratio of the number of married residents who have separated from their legal spouse since 1950 and remain so,[129] to the total number of married and widowed residents of the community in 1962-63.[130]

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[123] Source: see footnote 119, see also Appendix X. These offenses include assault, theft, and murder.

[124] Source: field study; see Appendix II.D.

[125,126] Untabulated data.

[127] Untabulated data.

[128] See Appendix II.D.

[129,130] Untabulated data.

(d) varies directly as the ratio of the number of persons charged in courts of law with drunk-disturbance-disorderly offenses (1957 to 1962 inclusive),[131] to the total number of persons in the resident population, aged fifteen and over in 1962-63;[132]

(e) varies directly as the ratio of the number of persons charged in courts of law with all offenses not including drunk-disturbance-disorderly offenses and traffic offenses (1957 to 1962 inclusive),[133] to the total number of persons in the resident population aged fifteen and over in 1962-63.[134]

That concludes the section defining the operational hypotheses, and the chapter on methodology. The next chapter gives the findings of the study and the outcome of the tests of the operational hypotheses just described.

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[131] See Appendix X.

[132] See Appendix II.D.

[133] See Appendix X.

[134] See Appendix II.D.

CHAPTER III

RESULTS

This chapter, following the basic pattern outlined by the operational hypotheses in Chapter Two, gives the results of the analysis. First an introductory description of the four Indian Reserve communities is given. This is followed by a more detailed description of the four populations, in which the degree of economic dependence, the four theoretical hypotheses regarding sustenance relationships and the two theoretical hypotheses regarding spatial relationships are dealt with. In the case of the degree of economic dependence (or dependence on public assistance) and the twenty operational hypotheses, the findings and the significance of inter-community differences is shown in tabular form. The operational hypotheses are tested in two basic ways, the primary test being the Pearsonian "r" and the secondary test being Spearman's "r_s" or "rho" (See Chapter Two). The outcome of each test is shown in tabular form after each operational hypothesis, and is summarized at the end of of this chapter.

A. INTRODUCTORY DESCRIPTION OF COMMUNITIES

The four Dakota communities under study, although of similar racial and cultural origin, were found to be significantly different with regard to their degree of dependence on public assistance. There were also found to be differences in other respects, such as the rate of growth and the age distribution of their populations,

the area and agricultural value of their Indian Reserve land, and their distance from urban centers .

The four communities are widely separated in space. From the southern-most, located close to the Montana boundary, to the northern-most, located in the northern fringe of the settled part of the province, is a road distance of 340 miles.

Round Plain,[135] the northern-most community, is comprised of twelve households and numbers about 77 persons.[136] It has an area of about six square miles and is located about eight miles north-west of the city of Prince Albert. A large part of the arable land is leased out by the band to non-Indian farmers. A few of the men carry on some grain farming. Bush work, cutting posts and rails, is a larger source of income. Dependence on public assistance is unstable over time and relatively high. This reserve was granted about 1894 to a band of Wahpeton Dakotas who had come to Manitoba shortly after the Minnesota outbreak of 1862.[137]

The Moose Woods community[138] is comprised of eighteen households and numbers about 111 persons. It has an area of about seven square miles and is located about twenty-five miles south of the city of Saskatoon on the east bank of the South Saskatchewan River. Beef cattle and wild hay have been an economic mainstay for many years.

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[135] Designated by the Indian Affairs Branch as Indian Reserve 94A, inhabited by the Wahpaton Sioux band. See Appendix III.

[136] The quantitative data in this section is from personal observation and interview: See Appendix VII.B.

[137] See: Gontran Laviolette, O.M.I., The Sioux Indians in Canada (Regina, Sask.: The Marian Press, 1944), pp. 31-45, 119.

[138] Indian Reserve 94, inhabited by the Moose [illegible] led the White Cap band.

Very little of the land is arable, and none is leased out. Summer employment at the army camp near the village of Dundurn, east of the reserve, remains an important source of income. Dependence on public assistance is fairly stable and relatively low. This reserve was granted in 1883 to White Cap and his band who had come to Saskatchewan after the Minnesota outbreak of 1862.[139]

The Standing Buffalo community[140] is comprised of sixty-one households and numbers about 359 persons. It has an area of about eight square miles and is located about six miles west of the town of Fort Qu'Appelle, on the north-west shore of Echo Lake, fifty air-miles north-east of the city of Regina. Some of the land is leased out to non-Indian farmers. Some residents do grain farming, but casual labor is now a more important source of income. Dependence on public assistance is very stable over time and relatively high. This reserve was granted in 1878 to Standing Buffalo's band who came to Saskatchewan after the Minnesota outbreak of 1862.[141]

The Wood Mountain community[142] is comprised of nine households and numbers about 32 persons. It has an area of about nine square miles and is located about five miles south-west of the village of Wood Mountain, about one hundred air-miles south-west of the city of Moose Jaw. Grain and stock farming provide the major part of the income of the community. Dependence on public assistance is very

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[139]See: Laviolette, op. cit., pp. 117-119.

[140]Designated as Indian Reserve 78, inhabited by the Standing Buffalo band.

[141]See: Laviolette, op. cit., pp. 60-68, 116-117.

[142]Designated as Indian Reserve 160, inhabited by the Wood Mountain band, formerly called the Moosejaw Sioux.

unstable and relatively low. The reserve was granted in 1913 to a number of Teton Dakotas who had come to Saskatchewan with Sitting Bull after the Custer battle of 1876.[143]

B. DETAILED DESCRIPTION OF COMMUNITIES

O. DEGREE OF ECONOMIC DEPENDENCE

In this section the four populations are compared as regards their degree of dependence on public assistance. The degree of dependence on public assistance was defined operationally in Chapter Two as the ratio: the sum of the number of public assistance "family-months" for five consecutive semi-annual Surveys of Public Assistance, February 1961 to February 1963, multiplied by a constant, divided by the number of "family units" in the community in 1962.[144] As was stated in the same place, a maximum value for this expression (designated in abbreviated form as the "mean number of public assistance family-months per family unit") and the value of the constant would be calculated in Chapter Three. The constant, and the degree of dependence on public assistance for each community, expressed as a per cent of the maximum, is calculated in this section.

The data from the IBM cards used in the Indian Affairs Branch Surveys of Public Assistance are presented in Appendix I.C. The following Table I presents the data from this source which indicate the reported amount of public assistance actually received.

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[143] See: Laviolette, op. cit., pp. 76-100, 119-21.

[144] See Chapter Two, p. 19.

From Table I it is seen that data for Round Plain is missing from the February 1962 survey. Therefore, the quantity of public assistance received is taken as the "total, not including Feb., 1962" in the table, for the purposes of this study. The remaining data is from four partially overlapping surveys, each covering a period of twelve months. Thus, for one family unit, the maximum number of family-months of public assistance which can be received and reported is forty-eight. (This is the relative number used for the comparative purposes of this study, not the actual number of months in three years, thirty-six). For a community, the maximum becomes forty-eight family-months times the number of family units in the community in 1962, the assumed mid-point of the period covered by the surveys. The following Table II, p. 42 sets forth these data.

Data from Table I, p. 40, showing the actually received public assistance, and Table II, p. 42, showing the maximum receivable public assistance, are combined in Table III, p. 43 to show the relative degree of dependence on public assistance expressed in three ways: first, as the numerical ratio of the number of public assistance family-months actually received to the maximum number receivable; second, as a per cent of the maximum receivable; and third, as a rank order. The percentage values are equal to "the mean number of public assistance family-months per family unit in the Indian Reserve Community" times $\frac{100}{48}$, the constant: in other words, the operational definition of economic dependence.

TABLE I

REPORTED NUMBER OF FAMILY-MONTHS OF PUBLIC ASSISTANCE RECEIVED IN THREE-YEAR PERIOD, BY COMMUNITY[a]

Number of family-months of public assistance received as reported by Surveys in:	Community			
	Round Plain	Moose Woods	Stand. Buff.	Wood Mtn.
February 1961	84	113	480	65
August 1961	110	68	528	96
February 1962	(b)	129	502	94
August 1962	92	108	594	24
February 1963	67	141	573	108
Total, including Feb. 1962	?	559	2677	387
Total, not including Feb. 1962	353	430	2175	293

[a] Source: See Appendix I.C.

[b] Data not available.

The significance of the differences between the ratios in Table III when arranged in the tentative rank order given, is indicated in Table IV, p.44. The methods used in calculation here are explained in Chapter Two.[145]

From Tables III and IV it can be concluded that there are significant differences between the four subject communities with respect to the degree of dependence on public assistance which they exhibit.

The Moose Woods community is shown clearly to have the lowest degree of dependence on public assistance, with a ratio of 35.8 per cent of the maximum possible number of family-months. Wood Mountain is also below the mean of the four communities with a ratio of 43.6 per cent. Round Plain shows a considerably higher degree of economic dependence with a ratio of 61.3 per cent. Standing Buffalo is still more dependent, with a ratio of 75.5 per cent. The range between the highest and the lowest value is 39.7 per cent and the mean value is 54 per cent.[146,147] Thus for measurement of the Y variable in the operational hypotheses of this study, a method has been found which yields significant differences.

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[145] See Chapter Two, pp. 19.

[146] Cf. Appendix I.E.: data regarding welfare expenditures for the Indian population of Saskatchewan.

[147] Cf. Appendix I.F.: data regarding welfare expenditures for the total population of Saskatchewan.

TABLE II

NUMBER OF FAMILY UNITS, 1962, AND MAXIMUM NUMBER OF FAMILY-MONTHS OF PUBLIC ASSISTANCE RECEIVABLE, 1961-1963, BY COMMUNITY (RELATIVE)

	Community			
	Round Plain	Moose Woods	Stand. Buff.	Wood Mtn.
Number of family units[a] = F	12	25	60	14
Maximum number of family-months of public assistance receivable = 48F	576	1200	2800	672

[a]Source: See Appendix I.B.

TABLE III

AMOUNT OF PUBLIC ASSISTANCE RECEIVED AND RECEIVABLE, AND PER CENT OF RECEIVABLE PUBLIC ASSISTANCE ACTUALLY RECEIVED, IN THREE-YEAR PERIOD, BY COMMUNITY

Family-months of public assistance	Community			
	Round Plain	Moose Woods	Stand. Buff.	Wood Mtn.
Number actually received[a]	353	430	2175	293
Number receivable but not received	223	770	705	379
Maximum number receivable[b]	576	1200	2880	672
Per cent actually received	61.3	35.8	75.5	43.6
Above or below mean (54%)	+	-	+	-
Percentage of highest per cent[c]	80	47	100	57
Tentative rank of per cents[d]	2	4	1	3
X^2 corrected rank[e]	2	4	1	3

[a]Source: Table I.

[b]Source: Table II.

[c]Two-figure accuracy.

[d]Rank 1 to 4 from high to low degree of economic dependence.

[e]See Table IV to follow.

TABLE IV

SIGNIFICANCE OF DIFFERENCES BETWEEN RATIOS SHOWING RELATIVE DEGREE OF ECONOMIC DEPENDENCE, BY RANKED PAIRS OF COMMUNITIES[a]

Ratio Pair	Pair of communities	Chi-square two-by-two table[b]			X^2
			SB	RP	Total
1	Standing Buffalo	received	2175	353	2528
and	and				4.88*
	Round	not received	705	223	928
2	Plain	maximum receivable	2880	576	3456
			RP	WM	Total
2	Round Plain	received	353	293	646
and	and	not received	223	379	602 38.13**
	Wood	maximum receivable	576	672	1248
3	Mountain				
			WM	MW	Total
3	Wood Mountain	received	293	430	723
and	and	not received	379	770	1149 10.64**
	Moose	maximum receivable	672	1200	1872
4	Woods				

[a]Source: Table III.

[b]See: Murray R. Spiegel, Schaum's Outline of Theory and Problems of Statistics (New York: Schaum Publishing Company, 1961), p. 203; see also pp. 168-69, 345. Yate's correction for continuity (for small samples) is used here and throughout this chapter, with X^2). Significance levels for one degree of freedom (as in the X^2 two-by-two table) are:

.05 = 3.84
.01 = 6.63

*Significant at the .05 level.

**Significant at the .01 level.

1. HUMAN RESOURCES

In this section the findings related to the first theoretical hypothesis regarding sustenance relationships are presented. Certain demographic features such as population growth and age distribution are investigated.

The first operational hypothesis, 1(a), is:

> The mean number of public assistance family-months per family unit in the Indian Reserve community varies directly as the ratio of the numerical increase in the resident population of the Indian Reserve from 1946 to 1961, to the size of the 1946 resident population.

At this point it would be well to distinguish between "band population" and "resident population". The band is a legally defined unit, as mentioned previously.[148] Its size changes depending on four main factors: (a) births to band women and deaths of band members; (b) marriage into or out of the band (brides become members of their husband's band, as a rule); (c) special action by the band council; and (d) enfranchisement of band members.

The size of the resident population depends on: (a) births and deaths in the community; and (b) migration and movement into or out of the community. This study deals primarily with the resident population of the Indian Reserve community, both band members and non-members. However, resident school-teachers and their families are not included in the field study.

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[148] See Chapter Two, p. 20, foot note 64 and references.

The size of the populations in different years, as given by two main sources, is presented in tabular form in Table V, p. 47, and in graphical form in Figures 1 and 2, pp. 48 and 49.

The degree of change in the size of the populations from 1946 to 1961 is shown in Table VI, p. 50, in numerical form, in percentage form, in sign form, and in the form of rank orders. The significance of the differences between the numerical ratios when arranged in the tentative rank order is also indicated.

Tables V and VI and Figures 1 and 2 indicate one trend, true for all four band populations: an increase of population, beginning as early as 1910 but most noticeable since about 1945. The resident populations of the Indian Reserves show the same common trend except for Wood Mountain where the population decreased since 1945. The most noticeable increase of population is observed for Standing Buffalo and Round Plain. The resident population of the Standing Buffalo reserve increased 163 per cent in the period 1946 to 1961, relative to the 1946 resident population.[149] This is equivalent to an average rate of increase of about 6 1/2 per cent per year.[150] In the period 1944 to 1962 the Standing Buffalo band population increased by 199 persons, or 101 per cent. This is equivalent to about 4 per cent per year.

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[149]This is not including forty additional persons enumerated for the 1961 census who were stated as being not resident in the Indian Reserve: See Appendix II.C.

[150]This is taken from the table "Amount of 1 at Compound Interest" where n is fifteen years. See:Richard Stevens Burington, Handbook of Mathematical Tables and Formulas (third edition; Sandusky, Ohio: Handbook Publishers, Inc. 1956), p. 265. The remaining percentages are calculated in similar fashion.

TABLE V

SIZE OF POPULATION, BY COMMUNITY, 1901 TO 1962, AS REPORTED BY INDIAN AFFAIRS BRANCH[a] AND DOMINION BUREAU OF STATISTICS[b] CENSUSES

Year of Census		Indian Reserve Community							
		Round Plain[c]		Moose Woods		Standing Buffalo		Wood Mountain	
IAB[a]	DBS[b]	IAB	DBS	IAB	DBS	IAB	DBS	IAB	DBS
1900	1901	103	178	50	50	172	217	127	(d)
	1906		111		(d)		183		(d)
1910		82		50		186		121	
	1911		93		62		(d)		(d)
1916		60		69		184		124	
	1916		30		68		191		(d)
1919		(d)		(d)		(d)		(d)	
	1921		35		63		158		38
1924		50		59		171		40	
	1926		59		69		153		38
1929		45		66		166		42	
	1931		42		76		156		37
1934		42		75		195		45	
	1936		50		82		(d)		48
1939		51		80		203		44	
	1941		47		82		139		37
1944		55		73		197		38	
	1946		41		73		134		42
1949		56		81		258		38	
	1951		57		88		262		41
1954		63		90		302		45	
	1956		75		94		291		40
1959		76		106		369		48	
	1961		93		116		352[e]		30
1962		81		116		396		50	

[a]Source: see Indian Affairs Branch; Appendix II.A. "Population" here refers to "number in band": band membership, not resident population of the community.

[b]Source: see Dominion Bureau of Statistics; Appendix II.B. "Population" here refers to "population of Indian Reserves," and may include resident non-Indians.

[c]Referred to by both sources as "Wahpaton Sioux".

[d]Not available.

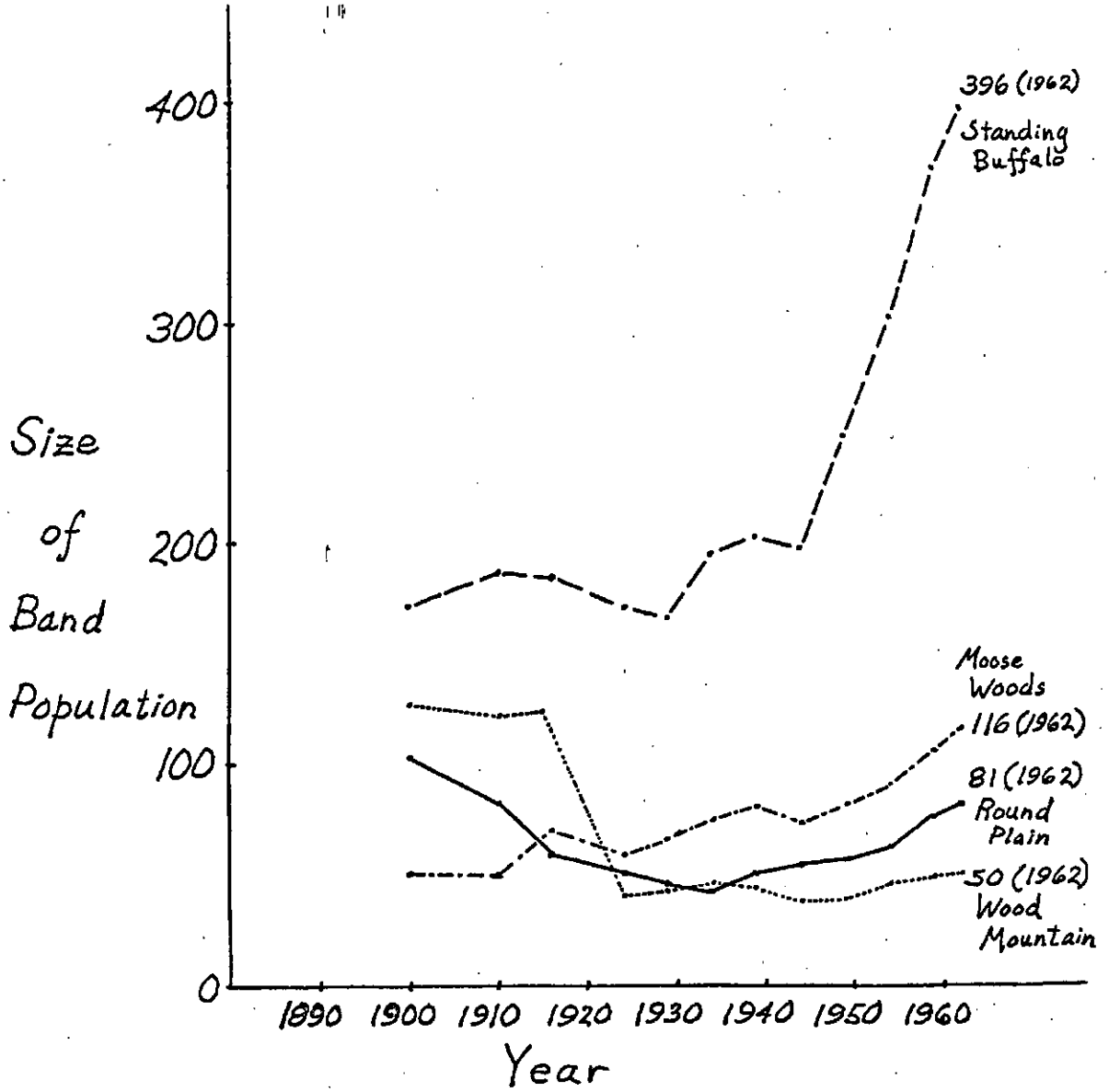

FIGURE 1

POPULATION OF FOUR INDIAN BANDS IN SASKATCHEWAN, 1900 TO 1962 (INDIAN AFFAIRS BRANCH)

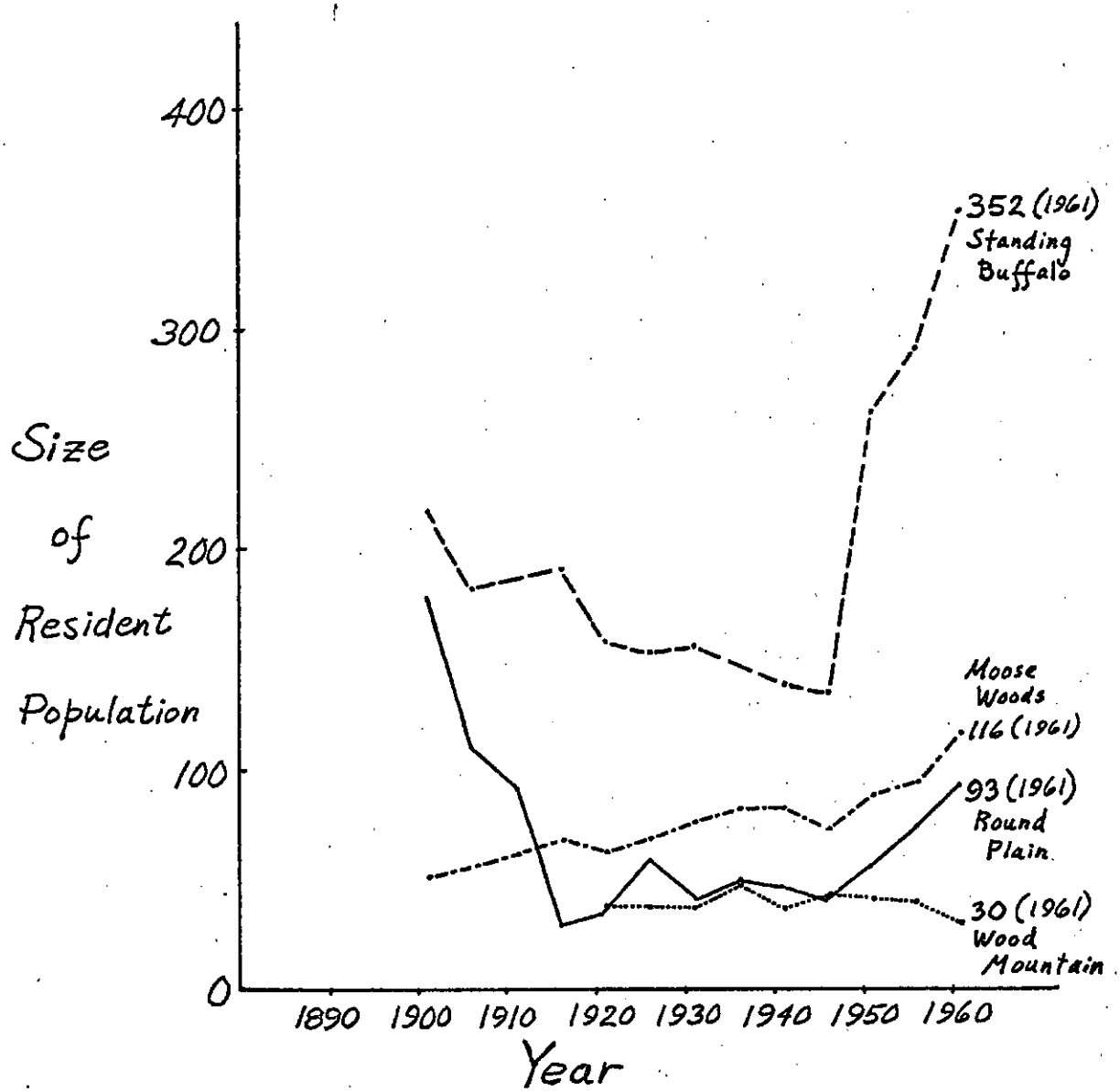

FIGURE 2

RESIDENT POPULATION OF FOUR INDIAN RESERVES IN SASKATCHEWAN, 1901 TO 1961 (DOMINION BUREAU OF STATISTICS)

TABLE VI

CHANGE IN SIZE OF RESIDENT POPULATION, 1946 TO 1961, BY COMMUNITY

Resident Population	Community			
	Round Plain	Moose Woods	Standing Buffalo	Wood Mountain
Size of population in 1946[a]	41	73	134	42
Numerical increase 1946-1961	52	43	218	-12
Size of population in 1961[a]	93	116	352[b]	30
Per cent increase 1946-1961[c]	127	59	163	-29
Per cent: above or below mean (80%)	+	-	+	-
Percentage of highest per cent	78	36	100	-18
Tentative rank of ratios	2	3	1	4
X^2 corrected rank[d]	1.5	3	1.5	4

[a]Source: Dominion Bureau of Statistics; see Appendix II.A.

[b]This figure does not include forty non-residents who were included in the Standing Buffalo enumeration area.

[c]Relative to base year 1946 = 100.

[d]X^2 for differences between numerical ratios, represented by tentative ranks:
1 and 2 (SB and RP) : $X_2^2 = .88$
2 and 3 (RP and MW) : $X_2^2 = 6.65^{**}$
3 and 4 (MW and WM) : $X^2 = 80.1^{**}$

*Significant at the .05 level ($X^2 = 3.841$).

**Significant at the .01 level ($X^2 = 6.635$).

For the purpose of comparison, it could be noted here that the total Indian (band) population of Saskatchewan increased from 14,158 in 1945 to 25,334 in 1960. Relative to the 1945 population this is an increase of 78.9 per cent or an average of about 3.7 per cent per year. During the 1945-49 period it was 3.6 per cent per year; during the 1949-54 period it was 2.8 per cent per year; and during the 1954-61 period it was 4.4 per cent per year. Thus Standing Buffalo and Round Plain have tended to follow this trend more than the other two communities since 1945.[151]

It is shown in Table VI that the differences in rate of increase of resident population are significant between Wood Mountain and Moose Woods, and between Moose Woods and Round Plain, but not between Round Plain and Standing Buffalo.

The findings regarding rate of increase of resident population (variable X) and degree of economic dependence (variable Y) have now been presented. Operational hypothesis 1(a) was tested by comparing sets of percentages representing variables X and Y. The outcome of the two tests for correlation between the sets of percentages is shown in Table VII, p. 52. The methods used here are explained in Chapter Two.[152]

Table VII indicates that the strength of linear correlation between rate of population increase and degree of economic dependence is not significant although the correlation is in the predicted direction.

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[151]For further details regarding the increase of the Indian population of Saskatchewan, see Appendix I.E.

[152]See Chapter Two, pp. 16-17.

TABLE VII

LINEAR CORRELATION AND RANK CORRELATION BETWEEN DEGREE OF DEPENDENCE ON PUBLIC ASSISTANCE (Y) AND RATE OF POPULATION INCREASE (X)

Community	Linear Correlation				Rank Correlation			
	Y	X	r	Predicted direction	Y	X	r_s	Predicted direction
Round Plain	61	127			2	1.5		
Moose Woods	36	59			4	3		
Standing Buffalo	76	163			1	1.5		
Wood Mountain	44	-29			3	4		
			.81	Yes			.75	Yes

.05 = .950
.01 = .990

.05 = (assume 1.00)
.01 = (assume 1.00)

The significance of the strength of rank correlation is not known because the tables do not give values for cases when N is four (as here) or less. When N is five, the value significant at the .05 level is .900, and at the .01 level is 1.000. If it is assumed that a rank correlation of 1.000 is significant when N is four, "r_s" here is insignificant in strength but is in the predicted direction.

Thus the null hypothesis, H_o, cannot be rejected at the .05 level of significance, and operational hypothesis 1(a) remains unconfirmed.

The second operational hypothesis, 1(b), is:

> The mean number of public assistance family-months per family unit in the Indian Reserve community varies inversely as the ratio of the size of the resident population 20 to 64 years of age, to the size of the total resident population of the Indian Reserve, in 1961.

The size of the category aged 20 to 64 inclusive (considered here as potential breadwinners) in the band population, relative to the total band population, is shown for the years 1910 to 1959 in Appendix II.A. in both tabular and graphical form.

The proportion of the resident population aged 20 to 64 inclusive is shown in Table VIII, p. 54 in numerical, per cent, sign and rank order forms.

From Table VIII it can be seen that three of the populations have approximately the same proportion of persons in the 20-64 age category. Wood Mountain has a larger proportion, 60 per cent, but because of the smallness of the numbers involved the difference is not significant.

TABLE VIII

SIZE OF RESIDENT POPULATION 20 TO 64 YEARS OF AGE, AND TOTAL RESIDENT POPULATION, 1961, BY COMMUNITY

Resident Population	Community			
	Round Plain	Moose Woods	Standing Buffalo[a]	Wood Mountain
Aged 20 to 64 inclusive[b]	28	47	129	18
Other	65	69	223	12
Total[b]	93	116	352	30
Per cent aged 20 to 64 incl.	30	41	37	60
Per cent: above or below mean (42%)	-	-	-	+
Per cent of highest value	50	68	62	100
Tentative rank of ratios	4	2	3	1
X^2 corrected rank[c]	2.5	2.5	2.5	2.5

[a] These figures were derived by interpolation from the data given for 392 persons in the area, since data for the 40 non-residents was not given separately. (See Table VI,b).

[b] Source: Dominion Bureau of Statistics; see Appendix II.C. 1 and 2.

[c] X^2 for differences between numerical ratios represented by tentative ranks:
1 and 2 (WM-MW): $X_2^2 = 2.917$
2 and 3 (MW-SB): $X_2^2 = .397$
3 and 4 (SB-RP): $X^2 = 1.17$
two by four (RP, MW, SB, WM): $X^2 = 9.102$* (no Yate's correction factor used; see Spiegel, op. cit., p. 204).

*Significant at the .05 level.

For purposes of comparison, it can be noted that the proportion of the total Indian band population of Saskatchewan in the 20-64 age category in 1959 was 37 per cent, the same as the figure for the resident population of Standing Buffalo.[153] The figure for the total population of Saskatchewan in 1961 was 49 per cent, still lower than that of Wood Mountain but higher than all of the others.[154]

The outcome of the tests of operational hypothesis 1(b) is shown in Table IX, p.56. It is seen that the strength of the linear correlation is not significant, although the direction is as predicted. The rank correlation results are not accepted because of completely tied ranks, which make the test inaccurate.

Thus the null hypothesis, H_o, cannot be rejected at the .05 level of significance, and operational hypothesis 1(b) remains unconfirmed.

2. RESOURCES OF THE PHYSICAL ENVIRONMENT

In this section the findings related to the second theoretical hypothesis are presented. Certain features such as population density and land value are investigated.

The first operational hypothesis here in this section, 2(a), is:

> The mean number of public assistance family-months per family unit in the Indian Reserve community varies directly as the ratio of the size of the resident population of the Indian Reserve in 1961, to the area of the Indian Reserve (in square miles) in 1964.

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[153] Further details regarding the age distribution of the Indian population of Saskatchewan appear in Appendix II.E.

[154] Further details regarding the age distribution of the total population of Saskatchewan appear in Appendix II.F.

Population of Saske
Population of Saske
Population of Saske
Population of Saske

TABLE IX

LINEAR CORRELATION AND RANK CORRELATION BETWEEN DEGREE OF DEPENDENCE ON PUBLIC ASSISTANCE (Y) AND PROPORTION OF POPULATION AGED 20-64 (X)

Community	Linear Correlation				Rank Correlation			
	Y	X	r	Predicted direction	Y	X	r_s	Predicted direction
Round Plain	61	30			2	2.5		
Moose Woods	36	41			4	2.5		
Standing Buffalo	76	37			1	2.5		
Wood Mountain	44	60			3	2.5		
			-.53	Yes			+.50[a]	No[a]
			.05 = .950				.05 = (assume 1.00)	
			.01 = .990				.05 = (assume 1.00)	

X^2 [a]Not accepted because of completely tied ranks. There was no significant differences between ranks at the .05 level.

The relevant data, appearing in Table X, p. 58, reveal significant inter-community differences. Standing Buffalo has a very high population density with 40.6 persons per square mile, while Wood Mountain has only 3.2 persons per square mile.

The outcome of the tests of operational hypothesis 2(a) is shown in Table XI, p. 59. It is seen that the linear correlation is not of significant strength but is in the predicted direction. The same is true of the rank correlation.

Thus the null hypothesis, H_o, cannot be rejected at the .05 level of significance, and operational hypothesis 2(a) remains unconfirmed.

The second operational hypothesis here, 2(b), is:

> The mean number of public assistance family-months per family unit in the Indian Reserve community varies directly with the number of Indians registered in bands on Indian Reserves within a thirty-mile radius of the center of the given community.

The relevant data, appearing in Table XII, p. 61, reveal that Moose Woods and Wood Mountain are not close to other Indian Reserves, while the other two communities are in areas of higher Indian population.

The outcome of the tests of operational hypothesis 2(b) is shown in Table XIII, p. 62. It is seen that the strength of linear correlation is not quite significant at the .05 level, although the direction is as predicted. The same is true for rank correlation.

Thus the null hypothesis H_o cannot be rejected at the .05 level of significance, and operational hypothesis 2(b) remains unconfirmed.

The third operational hypothesis here, 2(c), is:

> The mean number of public assistance family-months per family unit in the Indian Reserve Community varies directly as the ratio of the size of the population of the adjacent Rural Municipality(ies) in 1961, to the area of the Rural Municipality (in square miles) in 1961-62.

TABLE X

DENSITY OF INDIAN RESERVE RESIDENT POPULATION, IN PERSONS PER SQUARE MILE, 1962-63, BY COMMUNITY

	Community			
	Round Plain	Moose Woods	Standing Buffalo	Wood Mountain
Size of I.R. in acres (1964)[a]	3594	4009	5655	5920
Resident population of I.R. 1961[b]	93	116	352	30
Size of I.R. in square miles (1964)	5.62	6.27	8.68	9.25
Density of resident population in persons per square mile	16.6	18.5	40.6	3.2
Values: above or below mean (19.7 persons per square mile)	-	-	+	-
Per cent of highest value	41	46	100	8
Tentative rank (percentages)	3	2	1	4
X^2 corrected rank[c]	2.5	2.5	1	4

[a] Source: Indian Affairs Branch; see Appendix III, footnote h and reference.

[b] Source: Dominion Bureau of Statistics; see Appendix II.B.

[c] X^2 for differences between percentages represented by tentative ranks (considering percentages for the sake of expedience as parametric quantities with maximum value 100%):
1 and 2 (SB and MW) : X^2 = 71.26**
2 and 3 (MW and RP) : X^2 = .326
3 and 4 (RP and WM) : X^2 = 27.68**

*Significant at the .05 level.

**Significant at the .01 level.

TABLE XI

LINEAR CORRELATION AND RANK CORRELATION BETWEEN DEGREE OF DEPENDENCE ON PUBLIC ASSISTANCE (Y) AND DENSITY OF INDIAN RESERVE RESIDENT POPULATION (X)

Com-munity	Linear Correlation				Rank Correlation			
	Y	X	r	Predicted direction	Y	X	r_s	Predicted direction
Round Plain	81	41			2	2.5		
Moose Woods	47	46			4	2.5		
Standing Buffalo	100	100			1	1		
Wood Mountain	58	8			3	4		
			.75	Yes			.65	Yes

.05 = .950
.01 = .990

.05 = (assume 1.00)
.01 = (assume 1.00)

The relevant data is shown in Table XIV, p.63. Again it is indicated that Round Plain and Standing Buffalo are in more densely populated areas than are Moose Woods and Wood Mountain. In comparison, the average population density in the Rural Municipalities and Local Improvement Districts of Saskatchewan (taxable area only) is 3.6 persons per square mile.[155]

The outcome of the tests of operational hypothesis 2(c) is shown in Table XV, p.64. It is concluded that the linear correlation is not of significant strength but is in the predicted direction. The same conclusion is made regarding rank correlation.

Thus the null hypothesis H_o is retained at the .05 level of significance and operational hypothesis 2(c) is not accepted.

The fourth operational hypothesis here, 2(d), is:

> The mean number of public assistance family-months per family unit in the Indian Reserve community varies inversely with the per capita assessment of the adjacent Rural Municipality in 1961-62.

The relevant data is presented in Table XVI, p.65. From this table it is concluded that the four communities are located in areas of significantly different per capita assessment, with the value for the Wood Mountain area almost three times that of the Round Plain area.

The outcome of the tests of operational hypothesis 2(d) is shown in Table XVII, p.66. It was found that the strength of the linear correlation was not significant but the direction is as predicted.

Thus the null hypothesis H_o is not rejected, and operational hypothesis 2(d) remains unconfirmed.

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[155] Source: see Saskatchewan, Department of Municipal Affairs, op. cit., schedule no. 1.

TABLE XII

INDIANS REGISTERED IN BANDS ON INDIAN RESERVES WITHIN THIRTY-MILE RADIUS OF CENTER OF GIVEN COMMUNITY[a], 1962, BY COMMUNITY

	Community			
	Round Plain	Moose Woods	Standing Buffalo	Wood Mountain
Number of Indians, 1962[b]	863	116	2456	50
Value above or below mean (871 Indian band members)	-	-	+	-
Per cent of highest value	35	5	100	2
Tentative rank (percentages)	2	3	1	4
X^2 corrected rank[c]	2	3.5	1	3.5

[a] In other words, within an area of 2823 square miles.

[b] Source: see Appendix II.G.

[c] X^2 for differences between per cent values represented by tentative ranks (considering them as parametric quantities with maximum value 100%);

1 and 2 (SB-RP) : X_2^2 = 93.55**
2 and 3 (RP-MW) : X_2^2 = 26.28**
3 and 4 (MW-WM) : X^2 = 1.043

**Significant at the .01 level.

TABLE XIII

LINEAR CORRELATION AND RANK CORRELATION BETWEEN DEGREE OF DEPENDENCE ON PUBLIC ASSISTANCE (Y) AND NUMBER OF INDIANS WITHIN THIRTY-MILE RADIUS (X)

Community	Linear Correlation				Rank Correlation			
	Y	X	r	Predicted direction	Y	X	r_s	Predicted direction
Round Plain	81	35			2	2		
Moose Woods	47	5			4	3.5		
Standing Buffalo	100	100			1	1		
Wood Mountain	58	2			3	3.5		
			.937	Yes			.95	Yes
	.05 = .950 .01 = .990				.05 = (assume 1.00) .01 = (assume 1.00)			

TABLE XIV

DENSITY OF POPULATION OF ADJACENT RURAL MUNICIPALITIES, 1961, BY COMMUNITY

Regarding respective adjacent rural municipalities	Community			
	Round Plain	Moose Woods	Standing Buffalo	Wood Mountain
Population (rural and urban) 1961[a]	1896	656	2814	695
Taxable area, in square miles[b]	232	195	495	312
Density of population in persons per square mile	8.2	3.4	5.7	2.2
Value: above or below mean (4.88 persons per square mile)	+	-	+	-
Per cent of highest value	100	41	70	27
Tentative rank (percentages)	1	3	2	4
X^2 corrected rank[c]	1	3.5	2	3.5

[a]Source: see Saskatchewan, Department of Municipal Affairs, Annual Report, 1961-62, schedule no. 32.

[b]See the same source, where area is given in acres.

[c]X^2 for differences between percentages represented by tentative ranks (considering them as parametric quantities, with maximum value 100%):

1 and 2 (RP-SB) : X^2 = 32.98**
2 and 3 (SB-MW) : X^2 = 15.87**
3 and 4 (MW-WM) : X^2 = 3.76

**Significant at the .01 level.

TABLE XV

LINEAR CORRELATION AND RANK CORRELATION BETWEEN
DEGREE OF DEPENDENCE ON PUBLIC ASSISTANCE (Y)
AND DENSITY OF POPULATION OF ADJACENT RURAL MUNICIPALITIES (X)

Community	Linear Correlation				Rank Correlation			
	Y	X	r	Predicted direction	Y	X	r_s	Predicted direction
Round Plain	81	35			2	1		
Moose Woods	47	5			4	3.5		
Standing Buffalo	100	100			1	2		
Wood Mountain	58	2			3	3.5		
			.68	Yes			.75	Yes
	.05 = .950 .01 = .990				.05 = (assume 1.00) .01 = (assume 1.00)			

TABLE XVI

PER CAPITA ASSESSMENT OF ADJACENT RURAL MUNICIPALITIES, 1961, BY COMMUNITY

	Community			
	Round Plain	Moose Woods	Standing Buffalo	Wood Mountain
Per capita assessment[a] (dollars)	866	1426	1543	2428
Value: above or below mean ($1566 per capita)	-	-	-	+
Per cent of highest value	35	59	64	100
Tentative rank (percentages)	4	3	2	1
X^2 corrected rank[b]	4	2.5	2.5	1

[a] Source: see Saskatchewan, Department of Municipal Affairs, op. cit., schedule no. 32. The value for Standing Buffalo is the arithmetic mean of the values for the two rural municipalities concerned.

[b] X^2 for differences between percentages represented by tentative ranks (considering them as parametric quantities with maximum value 100%):

1 and 2 (WM-SB) : X_2^2 = 41.49**
2 and 3 (SB-MW) : X_2 = .338
3 and 4 (MW-RP) : X^2 = 10.62**

**Significant at the .01 level.

TABLE XVII

LINEAR CORRELATION AND RANK CORRELATION BETWEEN DEGREE OF DEPENDENCE ON PUBLIC ASSISTANCE (Y) AND PER CAPITA ASSESSMENT OF ADJACENT RURAL MUNICIPALITIES (X)

Community	Linear Correlation				Rank Correlation			
	Y	X	r	Predicted direction	Y	X	r_s	Predicted direction
Round Plain	81	100			2	4		
Moose Woods	47	41			4	2.5		
Standing Buffalo	100	70			1	2.5		
Wood Mountain	58	27			3	1		
			-.34	Yes			-.25	Yes

.05 =	.950
.01 =	.990

.05 =	(assume 1.00)
.01 =	(assume 1.00)

The fifth operational hypothesis here, 2(e), is:

> The mean number of public assistance family-months per family unit in the Indian Reserve community varies inversely with the "hypothetical land assessment" of the Indian Reserve, per capita, in 1962-63.

Indian Reserves in Saskatchewan have never received an official land assessment, except for portions leased out to non-Indian farmers, nor have they been included in the Saskatchewan Soil Survey. Therefore an attempt has been made by the writer, by interpolation from land assessment data from adjacent agricultural land, with the aid of aerial photographs, soil reconnaissance maps, and some professional help, to perform a hypothetical land assessment using the standards of the Saskatchewan Rural Land Assessment Branch as a guide.[156] The resulting data appear in Table XVIII, p. 68.[157]

From Table XVIII it can be seen that although all four of the per capita assessment values are low (all are lower than the lowest figure for adjacent Rural Municipalities given in Table XVI, p. 65, that is, $866), a wide variation exists, ranging from $769 for Wood Mountain down to $131 for Standing Buffalo.

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156 For sources see Chapter Two, pp. 21-22, footnotes 71, 72; for further details see Appendix V.

157 As initially stated, this operational hypothesis called for an investigation of land values of the Indian Reserves as indicated by the Dominion Bureau of Statistics Census of Agriculture, 1961. These data are shown in Appendix VI. From this source, the "estimate of present market value of land and buildings", divided by the 1962-63 resident population, is $144 for Round Plain, $178 for Moose Woods, $152 for Standing Buffalo, and $900 for Wood Mountain. However, because the writer has cause to believe the D.B.S. estimate for Round Plain is too low, this form of the operational hypothesis was rejected in favor of the present one.

TABLE XVIII

"HYPOTHETICAL LAND ASSESSMENT" OF INDIAN RESERVES, TOTAL AND PER CAPITA, 1962-63, BY COMMUNITY

	Community			
	Round Plain	Moose Woods	Standing Buffalo	Wood Mountain
Estimated land assessment of Indian Reserve (dollars)[a]	28,550	15,500	46,900	24,600
Resident population of Indian Reserve, 1962-63[b]	77	111	359	32
Estimated per capita assessment (dollars)	371	140	131	769
Value: above or below mean ($353 per capita)	+	-	-	+
Per cent of highest value	48	18	17	100
Tentative rank of values	2	3	4	1
X^2 corrected rank[c]	2	3.5	3.5	1

[a] Source: see Appendix V.

[b] Source: field study. Value for Standing Buffalo is blown up from a sample of 45/61 households.

[c] X^2 for differences between percentages represented by tentative ranks:
1 and 2 (WM-RP): $X_2^2 = 67.59^{**}$
2 and 3 (RP-MW): $X_2^2 = 19.02^{**}$
3 and 4 (MW-SB): $X^2 = 0$

**Significant at the .01 level.

The outcome of the tests of operational hypothesis 2(e) is shown in Table XIX, p. 70. It was concluded that the strength of linear correlation was very slight, certainly insignificant, although the direction is as predicted.

Thus the null hypothesis H_o is not rejected, and operational hypothesis 2(e) remains unconfirmed.

3. SUSTENANCE ACTIVITIES

In this section the findings related to the third theoretical hypothesis are presented. Features such as "man-days" of labor per capita and earned per household income are investigated.

The first operational hypothesis here, 3(a), is:

> The mean number of public assistance family-months per family unit in the Indian Reserve community varies inversely as the ratio of the size of the population resident on farms, to the size of the total resident population in 1961.

The relevant data are shown in Table XX, p. 71. From this table it can be seen that the proportion of the population resident on farms is higher in two communities, Moose Woods and Wood Mountain, than in the others. In fact 91 per cent of the Moose Woods population claim farm residence.

The outcome of the tests of operational hypothesis 3(a) is shown in Table XXI, p. 73. It was concluded that the linear correlation was of strength significant at the .05 level, as well as being in the predicted direction. The rank correlation, although not of significant strength is in the predicted direction.

Thus the null hypothesis H_o can be rejected and operational hypothesis 3(a) is confirmed.

TABLE XIX

LINEAR CORRELATION AND RANK CORRELATION BETWEEN DEGREE OF DEPENDENCE ON PUBLIC ASSISTANCE (Y) AND "HYPOTHETICAL LAND ASSESSMENT" OF INDIAN RESERVES (X)

Community	Linear Correlation				Rank Correlation			
	Y	X	r	Predicted direction	Y	X	r_s	Predicted direction
Round Plain	81	48			2	3		
Moose Woods	47	18			4	1.5		
Standing Buffalo	100	17			1	1.5		
Wood Mountain	58	100			3	4		
			-.32	Yes			-.05	Yes
			.05 = .950				.05 = (assume 1.00)	
			.01 = .990				.01 = (assume 1.00)	

TABLE XX

RESIDENCE OF RESIDENT POPULATION: ON FARM OR NOT ON FARM: 1961, BY COMMUNITY

	Community			
	Round Plain	Moose Woods	Standing Buffalo	Wood Mountain
Residence on farm[a]	19	105	53	22
Residence not on farm[a]	74	11	339	8
Total population[a]	93	116	392	30
Per cent of population resident on farm	20	91	14	73
Per cent: above or below mean (50%)	-	+	-	+
Per cent of highest value	22	100	15	80
Tentative rank (percentages)	3	1	4	2
X^2 corrected rank[b]	3.5	1	3.5	2

[a] Source: Dominion Bureau of Statistics; see Appendix II.C.1 and 2.

[b] X^2 for differences between numerical ratios represented by tentative ranks:

1 and 2 (MW-WM) : $X_2^2 = 4.79$*
2 and 3 (WM-RP) : $X_2^2 = 26.22$**
3 and 4 (RP-SB) : $X^2 = 2.318$

*Significant at the .05 level.

**Significant at the .01 level.

The second operational hypothesis here, 3(b), is:

> The mean number of public assistance family-months per family unit in the Indian Reserve community varies inversely as the ratio of the estimated number of "man-days" of labor worked by persons in the resident population in a stated twelve-month period in 1962-63, to the size of the resident population in 1962-63.

The relevant data are presented in Table XXII, p. 74. From this table it was concluded that while three communities had a value of about 24 "man-days" per capita, Wood Mountain had a value of 40, over one and a half times as large.[158]

The outcome of the tests of operational hypothesis 3(b) is presented in Table XXIII, p. 75. It was concluded from this table that the linear correlation was not of significant strength but in the predicted direction. The rank correlation was nil.

Thus the null hypothesis H_o is not rejected and operational hypothesis 3(b) remains unconfirmed.

The third operational hypothesis here, 3(c), is:

> The mean number of public assistance family-months per family unit in the Indian Reserve community varies inversely as the ratio of the earned personal income, to the total personal income received by the resident population in a stated twelve-month period in 1962-63.

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[158] Initially it was intended to investigate the proportion of the resident population which had been engaged in income-producing activity for four months or more of a given twelve-month period. This is not presented as an operational hypothesis because of the difficulty in estimating accurately the working-time of farmers. At any rate, the findings from the household-interview schedule are as follows: for Round Plain, 9/77 = .12; for Moose Woods, 12/111 = .11; for Standing Buffalo, 30/265 = .11; for Wood Mountain, 3/30 = .10. The differences are deemed insignificant.

TABLE XXI

LINEAR CORRELATION AND RANK CORRELATION BETWEEN DEGREE OF DEPENDENCE ON PUBLIC ASSISTANCE (Y) AND PROPORTION OF POPULATION RESIDENT ON FARMS (X)

Community	Linear Correlation				Rank Correlation			
	Y	X	r	Predicted direction	Y	X	r_s	Predicted direction
Round Plain	61	20			2	3.5		
Moose Woods	36	91			4	1		
Standing Buffalo	76	14			1	3.5		
Wood Mountain	44	73			3	2		
			-.964*	Yes			-.85	Yes

.05 = .950	.05 = (assume 1.00)
.01 = .990	.01 = (assume 1.00)

*Significant at the .05 level.

TABLE XXII

ESTIMATED NUMBER OF "MAN-DAYS" PER CAPITA OF LABOR WORKED BY PERSONS IN POPULATION IN TWELVE-MONTH PERIOD, 1962-63, BY COMMUNITY[a]

	Community			
	Round Plain	Moose Woods	Standing Buffalo[b]	Wood Mountain
Number of "man-days" worked[c]	1750	2808	9040	1209
Resident population[d]	77	111	359	30
Number of "man-days" worked per capita per year	23	25	25	40
Value: above or below mean (71 man-days per capita)	-	-	-	+
Per cent of highest value	58	63	63	100
Tentative rank (percentages)	4	3	2	1
X^2 corrected rank[e]	3	3	3	1

[a]Source: this data results from a field study by the writer, using household interview schedules; see Chapter Two, pp. 15-16. Data for Round Plain is for 1963; for the others data is for 1962. For dates of the survey in each community see Appendix VII. B.

[b]Data "blown up" from a 73.8 per cent sample (45/61 households) indicating 6669 "man-days" worked and a resident population of 265.

[c]See Appendix VII.B.5.a.

[d]See Appendix VII.B.1.a or Appendix II.D.

[e]X^2 for differences between percentages represented by tentative ranks (considering them as quantities with maximum value = 100%):
1 and 2 (WM-SB) : X_2^2 = 42.9**
2 and 3 (SB-MW) : X_2^2 = 0
3 and 4 (MW-RP) : : X^2 = .334

**Significant at the .01 level.

TABLE XXIII

LINEAR CORRELATION AND RANK CORRELATION BETWEEN
DEGREE OF DEPENDENCE ON PUBLIC ASSISTANCE (Y)
AND ESTIMATED NUMBER OF "MAN-DAYS" WORKED PER CAPITA PER YEAR (X)

Community	Linear Correlation				Rank Correlation			
	Y	X	r	Predicted direction	Y	X	r_s	Predicted direction
Round Plain	81	58			2	3		
Moose Woods	47	63			4	3		
Standing Buffalo	100	63			1	3		
Wood Mountain	58	100			3	1		
			-.41	Yes			0	-
			.05 = .950 .01 = .990				.05 = (assume 1.00) .01 = (assume 1.00)	

The relevant data are shown in Table XXIV, p. 77. It was concluded from this table that although all four communities showed over half of their personal income as being earned, two of them, Moose Woods and Wood Mountain, showed about ten per cent higher a proportion of their personal income as earned.[159]

The outcome of the tests of operational hypothesis 3(c) is presented in Table XXV, p. 78. It was concluded from this table that the strength of linear correlation was not quite significant at the .05 level, although the direction was as predicted. The same is true of the rank correlation.

Thus the null hypothesis H_o cannot be rejected and operational hypothesis 3(c) remains unconfirmed.

The fourth operational hypothesis here, 3 (d), is:

> The mean number of public assistance family-months per family unit in the Indian Reserve community varies inversely as the ratio of the earned personal income received by the resident population in a stated twelve-month period in 1962-63, to the number of households in the community.

The relevant data appear in Table XXVI, p. 79. It is shown that Moose Woods, with a mean earned personal income per household of $1,727 is somewhat higher than the others which range between $1,362 and $1,134.

The outcome of the tests of operational hypothesis 3(d) is presented in Table XXVII, p.81 . It was concluded from this table that the linear correlation was not of significant strength, though of correct direction. The same conclusion was made regarding rank correlation.

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[159] "Personal" income is not to be confused with "public" income of the band, which may be used to build roads, houses, etc., nor with gross earned income, part of which may be used to defray expenses of the income-earning operation; see Chapter Two, p. 24, footnote 83 for the distinction.

TABLE XXIV

EARNED PERSONAL INCOME AND TOTAL PERSONAL INCOME FOR TWELVE-MONTH PERIOD, 1962-63 BY COMMUNITY

	Community			
	Round Plain	Moose Woods	Standing Buffalo[a]	Wood Mountain
Earned personal income[b] of community (dollars)	13,604	32,500	83,160	11,739
Non-earned personal income (dollars)	10,916	17,500	64,940	6,574
Total personal income (dollars)	24,520	50,000	148,100	18,313
Per cent earned	55	65	56	64
Percent: above or below mean (60%)	-	+	-	+
Per cent of highest value	85	100	86	98
Tentative rank (ratios)	4	1	3	2
X^2 corrected rank[c]	3.5	1.5	3.5	1.5

[a] Data "blown up" from a 45/61 sample indicating $61,277 earned and $47,894 non-earned, for a total of $109,171.

[b] Source: field study; see Appendix VII.B.5.b. for summary tabulation.

[c] X^2 for differences between numerical ratios represented by tentative ranks:
1 and 2 (MW-WM): X_2^2 = not significant
2 and 3 (WM-SB): X_2^2 = 407.2**
3 and 4 (SB-RP): X^2 = not significant.

**Significant at the .01 level.

TABLE XXV

LINEAR CORRELATION AND RANK CORRELATION BETWEEN DEGREE OF DEPENDENCE ON PUBLIC ASSISTANCE (Y) AND PROPORTION OF TOTAL PERSONAL INCOME EARNED (X)

Community	Linear Correlation				Rank Correlation			
	Y	X	r	Predicted direction	Y	X	r_s	Predicted direction
Round Plain	81	85			2	3.5		
Moose Woods	47	100			4	1.5		
Standing Buffalo	100	86			1	3.5		
Wood Mountain	58	98			3	1.5		
			-.92	Yes			-.70	Yes
	.05 = .950 .01 = .990				.05 = (assume 1.00) .01 = (assume 1.00)			

TABLE XXVI

MEAN EARNED PERSONAL INCOME PER HOUSEHOLD FOR TWELVE-MONTH PERIOD, 1962-63, BY COMMUNITY

	Community			
	Round Plain	Moose Woods	Standing Buffalo[a]	Wood Mountain
Earned personal income[b] (dollars)	13,604	31,103	83,100	11,699
Number of households	12	18	61	9
Mean earned personal income per household[b] (dollars)	1,134	1,727	1,362	1,300
Value above or below mean ($1,382)	-	+	-	-
Per cent of highest value	66	100	79	75
Tentative rank of dollar values	4	1	2	3
X^2 corrected rank[c]	4	1	2	3

[a]Data "blown up" from a 45/61 sample indicating $61,277 earned by forty-five households.

[b]Source: field study; see Appendix VII.B.5.c. for summary tabulating.

[c]X^2 for differences between dollar values represented by tentative ranks (considering them as quantities with maximum value = $1,727):
1 and 2 (MW-SB) : X^2 = 406.1**
2 and 3 (SB-WM) : X^2 = 6.05*
3 and 4 (WM-RP) : X^2 = 37.89**

*Significant at the .05 level.

**Significant at the .01 level.

Thus the null hypothesis H_o is not rejected and operational hypothesis 3(d) remains unconfirmed.

The fifth operational hypothesis here, 3(e), is:

> The mean number of public assistance family-months per family unit in the Indian Reserve community varies inversely as the ratio of the earned personal income received by the resident population in a stated twelve-month period in 1962-63, to the size of the resident population of the community.

The relevant data presented in Table XXVIII, p. 82. It is indicated that Wood Mountain has the highest earned per capita personal income, with a value of $366. Moose Woods also is above the mean value with $280. Standing Buffalo stands at $231, and the lowest is Round Plain with $177.

For the purposes of comparison it is useful to observe that the per capita earned income of Indians of the Moose Woods Reserve in 1924 was estimated at $252.[160] Using the Cost of Living Index Numbers (Consumer Price Index) this would be equivalent to $455 in 1962.[161] Using the Index of Farm Family Living Costs, recommended by D.B.S. officials as being more accurate for these communities, the equivalent would be $454 in 1962.[162] In 1924 the per capita personal income for

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160 Canada, Department of Indian Affairs, Annual Report, 1924.

161 See: (i) Canada, Dominion Bureau of Statistics, Cost of Living Index Numbers for Canada, 1913-1946 (Ottawa: 1947), Table 4; (ii) Canada, Dominion Bureau of Statistics, Prices and Price Indexes (Ottawa: 1960), Table 7; (iii) Bank of Canada, Statistical Summary, January, 1964, p. 58.

162 See: Personal Correspondence of the Writer, letter from W. R. M. Dunning, Chief, Farm and Special Purpose Prices Section, Prices Division, Dominion Bureau of Statistics, Ottawa, March 24, 1964, enclosure.

TABLE XXVII

LINEAR CORRELATION AND RANK CORRELATION BETWEEN DEGREE OF DEPENDENCE ON PUBLIC ASSISTANCE (Y) AND MEAN EARNED PERSONAL INCOME PER HOUSEHOLD PER YEAR (X)

Community	Linear Correlation				Rank Correlation			
	Y	X	r	Predicted direction	Y	X	r_s	Predicted direction
Round Plain	81	66			2	4		
Moose Woods	47	100			4	1		
Standing Buffalo	100	79			1	2		
Wood Mountain	58	75			3	3		
			-.57	Yes			-.40	Yes
	.05 = .950				.05 = (assume 1.00)			
	.01 = .990				.01 = (assume 1.00)			

TABLE XXVIII

MEAN EARNED PERSONAL INCOME PER CAPITA
FOR TWELVE-MONTH PERIOD, 1962-63, BY COMMUNITY

	Community			
	Round Plain	Moose Woods	Standing Buffalo	Wood Mountain
Earned personal income (dollars)[b]	13,604	31,103	83,100	11,699
Resident population	77	111	359	32
Mean earned personal income per capita (dollars)[b]	177	280	231	366
Value: above or below mean ($264)	-	+	-	+
Per cent of highest value	48	76	63	100
Tentative rank (dollar values)	4	2	3	1
X^2 corrected rank[c]	4	2	3	1

[a] Data blown up from a 45/61 sample indicating $61,277 earned by a population of 265.

[b] Source: field study; see Appendix VII.B.5.c. for summary tabulation.

[c] X^2 for differences between dollar values represented by tentative ranks (considering them as quantities with maximum value = $366):
1 and 2 (WM-MW) : X_2^2 = **
2 and 3 (MW-SB) : X_2^2 = 14.92**
3 and 4 (SB-RP) : X^2 = **

**Significant at the .01 level.

Saskatchewan as a whole was $437, which would be equivalent to $772 or $787 in 1962, depending on which index were used. The 1961 per capita personal income for the province was $1184, for 1962, $1673.[163]

The outcome of the tests of operational hypothesis 3(e) is presented in Table XXIX, p. 84. It was concluded that the strength of linear correlation was not significant, and the direction was as predicted. The same is true of the rank correlation.

Thus the null hypothesis H_o is not rejected and operational hypothesis 3(e) remains unconfirmed.

4. SCALE OF LIVING

In this section the findings related to the fourth theoretical hypothesis are presented. The scale of living of the communities is investigated by the use of two measures.

The first operational hypothesis here, 4(a), is:

> The mean number of public assistance family-months per family unit in the Indian Reserve community varies inversely with the mean household score obtained with Sewell's 1943 Short Form of the Farm Family Socioeconomic Status Scale.

Although this scale now is outdated and includes items which are not applicable to measure scale of living, such as educational level and church attendance, it was a standardized test. The results from the use of this scale appear in Table XXX, p. 85. It was concluded

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See (i) Canada, Dominion Bureau of Statistics, National Accounts, Income and Expenditure, 1926-1950 (Ottawa: 1951); (ii) Canada, Dominion Bureau of Statistics, National Accounts, Income and Expenditure, 1961 (Ottawa: 1962); (iii) Saskatchewan Economic Review, XVII (March, 1963), Table No. 10.

TABLE XXIX

LINEAR CORRELATION AND RANK CORRELATION BETWEEN DEGREE OF DEPENDENCE ON PUBLIC ASSISTANCE (Y) AND MEAN EARNED PERSONAL INCOME PER CAPITA YEAR (X)

Community	Linear Correlation				Rank Correlation			
	Y	X	r	Predicted direction	Y	X	r_s	Predicted direction
Round Plain	81	48			2	4		
Moose Woods	47	76			4	2		
Standing Buffalo	100	63			1	3		
Wood Mountain	58	100			3	1		
			-.62	Yes			-.60	Yes
			.05 = .950 .01 = .990				.05 = (assume 1.00) .01 = (assume 1.00)	

TABLE XXX

MEAN HOUSEHOLD SCORES OBTAINED BY USE OF SEWELL'S FARM FAMILY SOCIOECONOMIC STATUS SCALE, 1943 SHORT FORM[a], 1962-63, BY COMMUNITY

	Community			
	Round Plain	Moose Woods	Standing Buffalo	Wood Mountain
Mean household score[b]	45.1	46.2	45.9	50.1
Per cent position in range of possible scores[c]	11.7	13.8	13.3	21.4
Truncated score[d]	6.1	7.2	6.9	11.1
Household score: above or below (mean 46.8)	-	-	-	+
Per cent of highest truncated score	55	65	62	100
Tentative rank (per cent position)	4	2	3	1
X^2 corrected rank[e]	3	3	3	1

[a] See Appendix VIII.A.

[b] Source: field study; for summary tabulation of results see Appendix VIII.C.

[c] The range from the minimum score of 39 to the maximum score of 91 is 52 points.

[d] Mean household score minus 39.

[e] X^2 for differences between percentages represented by tentative ranks (considering them as quantities with the maximum value = 100%):
1 and 2 (WM-MW) : X^2 = 40.33**
2 and 3 (MW-SB) : X^2 = .086
3 and 4 (SB-RP) : X^2 = .742

**Significant at the .01 level.

from this table that although all four communities held positions in the lowest quartile of possible scores, Wood Mountain is some distance above the others. The values of these others lie fairly close together, with Round Plain as the lowest.[164]

The outcome of the tests of operational hypothesis 4(a) is presented in Table XXXI, p. 87. It was concluded that the strength of linear correlation was not significant, although the direction was as predicted. The rank correlation was nil.

Thus the null hypothesis H_o is not rejected and operational hypothesis 4(a) remains unconfirmed.

The second operational hypothesis here, 4(b), is:

> The mean number of public assistance family-months per family unit in the Indian Reserve community varies inversely with the mean household score obtained with the writer's "level of living" scale.

This scale is an unstandardized scale constructed in an attempt to combine some of the features of Sewell's scale and a measure used by Roy.[165] The results from the use of this scale are shown in Table XXXII, p. 88. This table shows that the writer's scale gives results which are not much different from those of Sewell's scale. Wood Mountain remains in the highest position.

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[164] For comparison with the scale of living of Indian population and the total population of Saskatchewan, see Appendix VIII.D.

[165] See: Prodipto Roy and Della M. Walker, The Assimilation of the Spokane Indians (Washington Agricultural Experiment Stations Bulletin 628; Pullman, Washington: May, 1961), pp. 30-33.

TABLE XXXI

LINEAR CORRELATION AND RANK CORRELATION BETWEEN DEGREE OF DEPENDENCE ON PUBLIC ASSISTANCE (Y) AND MEAN HOUSEHOLD SCORES ON SEWELL'S S.E.S. SCALE (X)

Community	Linear Correlation				Rank Correlation			
	Y	X	r	Predicted direction	Y	X	r_s	Predicted direction
Round Plain	81	55			2	3		
Moose Woods	47	65			4	3		
Standing Buffalo	100	62			1	3		
Wood Mountain	58	100			3	1		
			-.47	Yes			0	-
			.05 = .950				.05 = (assume 1.00)	
			.01 = .990				.01 = (assume 1.00)	

TABLE XXXII

MEAN HOUSEHOLD SCORES OBTAINED BY USE OF A LEVEL OF LIVING SCALE CONSTRUCTED BY THE WRITER[a], 1962-63, BY COMMUNITY

	Community			
	Round Plain	Moose Woods	Standing Buffalo	Wood Mountain
Mean of household scores[b]	16.2	18.2	15.0	27.4
Per cent position in range of possible scores[c]	15.0	16.9	13.9	25.4
Household score; above or below mean (19.2)	-	-	-	+
Per cent of highest household score	59	66	55	100
Tentative rank (per cent position)	3	2	4	1
X^2 corrected rank[d]	3	3	3	1

[a]See Appendix VIII.B.

[b]Source: field study; for summary tabulation see Appendix VIII.C.

[c]The range from the minimum score of 0 to the maximum score of of 108 is 108 points.

[d] X^2 for differences between percentages represented by tentative ranks (using 100% as the maximum value):
1 and 2 (WM-MW) : X^2 = 38.59**
2 and 3 (MW-RP) : X^2 = .768
3 and 4 (RP-SB) : X^2 = .184

**Significant at the .01 level.

TABLE XXXIII

LINEAR CORRELATION AND RANK CORRELATION BETWEEN DEGREE OF DEPENDENCE ON PUBLIC ASSISTANCE (Y) AND MEAN HOUSEHOLD SCORES ON LEVEL OF LIVING SCALE (X)

Community	Linear Correlation				Rank Correlation			
	Y	X	r	Predicted direction	Y	X	r_s	Predicted direction
Round Plain	81	59			2	3		
Moose Woods	47	66			4	3		
Standing Buffalo	100	55			1	3		
Wood Mountain	58	100			3	1		
			-.58	Yes			0	-
			.05 = .950 .01 = .990				.05 = (assume 1.00) .01 = (assume 1.00)	

The outcome of the tests of operational hypothesis 4(b) is presented in Table XXXIII, p. 89. It was concluded that the linear correlation was not of significant strength, though of correct direction. The rank correlation was nil.

Thus the null hypothesis H_o is not rejected and operational hypothesis 4(b) remains unconfirmed.

5. ECOLOGICAL DISTANCE

In this section the findings related to spatial relationships and the fifth theoretical hypothesis are presented. The results of using a certain formula to relate population to distance are investigated.

The operational hypothesis here, 5 (a), is:

> The mean number of public assistance family-months per family unit in the Indian Reserve communities varies directly as

$$I = \frac{(P_1P_2)^{1/2}}{D_2^2}$$

where P_1 = the size of the Indian Reserve resident population in 1962-63;

P_2 = the size of the population of the nearest urban center in 1961;

D_2 = the shortest road distance between the Indian Reserve and the nearest urban center, measured in road miles.[166]

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[166] When more than one urban center is involved with one Indian Reserve Community, let the populations of the respective urban centers become P_2, P_3, etc. and the distance becomes D_2, D_3, etc. The expression

$$I = \frac{(P_1P_2)^{1/2}}{D_2^2}$$ then becomes

$$I = \frac{(P_1P_2)^{1/2}}{D^2} + \frac{(P_1P_3)^{1/2}}{D^2} +,\text{.. etc.}$$

TABLE XXXIV

POPULATION-DISTANCE FACTOR, $I = \frac{(P_1P_2)^{1/2}}{D^2}$, CALCULATED FOR 1962-63, BY COMMUNITY

	Community			
	Round Plain	Moose Woods	Standing Buffalo	Wood Mountain
Size of population of Indian Reserve community (P_1)[a]	77	111	359	32
Size of population of nearest urban center(s) (P_2, P_3, etc.)[b]	24,000 and 100	95,000 and 410	1,520 and 410	140 and 100
Distance(s) in road-miles[c]	8 and 10	24 and 14	6 and 7	5 and 8
$I = \frac{(P_1P_2)^{1/2}}{D_2^2} + \frac{(P_1P_3)^{1/2}}{D_3^2}$	22.1	6.7	28.4	3.6
Value; above or below mean (15.2)	+	-	+	-
Per cent of highest value	78	24	100	13
Tentative rank (values of I)	2	3	1	4
X^2 corrected rank[d]	2	3	1	4

[a]Source: field study; see Appendix II.D.

[b]All populations except the two smallest are given as listed in Saskatchewan, Department of Municipal Affairs, op. cit., schedules number 25, 26, and 27. See Appendix IX.

[c]Source: household interview schedules, maps, personal speedometer check; see Appendix IX.

[d]X^2 for differences between percentages represented by tentative ranks (using 100% as the maximum value):
1 and 2 (SB-RP) : X^2 = 22.5**
2 and 3 (RP-MW) : X^2 = 56.2**
3 and 4 (MW-WM) : X^2 = 4.01*

*Significant at the .05 level.

**Significant at the .01 level.

The relevant data are presented in Table XXXIV, p. 91. From this table it is concluded that noticeable differences exist between the communities regarding the population-distance factor. Wood Mountain and Moose Woods have relatively low values, 3.6 and 6.7 respectively, while Round Plain and Standing Buffalo have much higher values, 22.1 and 28.4 respectively.

The outcome of the tests of operational hypothesis 5(a) is presented in Table XXXV, p. 93. It was concluded that the linear correlation was of strength significant at the .05 level, and in the predicted direction. The rank correlation was not of significant strength, but in the predicted direction.

Thus the null hypothesis H_o can be rejected, and operational hypothesis 5(a) is confirmed.

6. SIGNS OF DISORGANIZATION

In this section the findings related to the sixth theoretical hypothesis are presented. Certain features taken as indicators of cultural, social, and personal disorganization are investigated. Those related to family structure are dealt with first, followed by those related to legal offenses brought before the courts.

The first operational hypothesis here, 6(a), is:

> The mean number of public assistance family-months per family unit in the Indian Reserve community varies directly as the ratio of the number of unmarried mothers, to the total number of mothers in the resident population, not including widows, in 1962-63.

TABLE XXXV

LINEAR CORRELATION AND RANK CORRELATION BETWEEN DEGREE OF DEPENDENCE ON PUBLIC ASSISTANCE (Y)

AND POPULATION-DISTANCE FACTOR, $I = \frac{(P_1 P_2)^{1/2}}{D^2}$, (X)

Community	Linear Correlation				Rank Correlation			
	Y	X	r	Predicted direction	Y	X	r_s	Predicted direction
Round Plain	81	78			2	2		
Moose Woods	47	24			4	3		
Standing Buffalo	100	100			1	1		
Wood Mountain	58	13			3	4		
			.952*	Yes			.80	Yes
			.05 = .950 .01 = .990				.05 = (assume 1.00) .01 = (assume 1.00)	

*Significant at the .05 level.

TABLE XXXVI

NUMBER OF RESIDENT UNMARRIED MOTHERS AND ALL MOTHERS, NOT INCLUDING WIDOWS, 1962-63, BY COMMUNITY

	Community			
	Round Plain	Moose Woods	Standing Buffalo[a]	Wood Mountain
No. of unmarried mothers[b]	2	4	9	0
No. of married mothers[c]	6	9	41	6
Total no. of resident mothers[b]	8	13	50	6
Per cent unmarried mothers	25	31	18	0
Per cent: above or below mean (18.5%)	+	+	-	-
Per cent of highest percentage	81	100	58	0
Tentative rank (percentages)	2	1	3	4
X^2 corrected rank[d]	2.5	2.5	2.5	2.5

[a]"Blown up" from a 45/61 household sample indicating 7 unmarried mothers of a total of 39 mothers.

[b]Source: field study.

[c]Those of legally married status, but not necessarily living with spouse.

[d]X^2 for differences between numerical ratios represented by tentative ranks are as follows:
1 and 2 (MW-RP) : X^2 = .081
2 and 3 (RP-SB) : X^2 = .0003
3 and 4 (SB-WM) : X^2 = 1.287

The relevant data are presented in Table XXXVI, p. 94. From this table it is concluded that the highest proportion of resident unmarried mothers is found at Moose Woods, with 31 per cent of the mothers unmarried. This includes one common-law household. At Round Plain the proportion is 25 per cent. At Standing Buffalo it is 18 per cent, and includes two common-law households. At Wood Mountain no unmarried mothers are resident. In addition, the other three communities each have one or more unmarried mothers in their band population who are not resident in the Indian Reserve for six months or more in a year.

The outcome of the tests of operational hypothesis 6(a) is presented in Table XXXVII, p. 96. It was concluded that the strength of linear correlation was not significant and was in fact very weak, although the direction was as predicted. The rank correlation results were not accepted because of completely tied ranks.

Thus the null hypothesis H_o is retained, and operational hypothesis 6(a) is not confirmed.

The second operational hypothesis here, 6(b), is:

> The mean number of public assistance family-months per family unit in the Indian Reserve community varies directly as the ratio of the number of illegitimate children, to the total number of children aged nineteen and under in the resident population in 1962-63.

The relevant data are presented in Table XXXVIII, p. 97. This table presents almost the same pattern as the one for unmarried mothers. Moose Woods is highest with 41 per cent of the resident children illegitimate, Wood Mountain is lowest with none, and the others fall between.

TABLE XXXVII

LINEAR CORRELATION AND RANK CORRELATION BETWEEN DEGREE OF DEPENDENCE ON PUBLIC ASSISTANCE (Y) AND PROPORTION OF RESIDENT MOTHERS UNMARRIED (X)

Community	Linear Correlation				Rank Correlation			
	Y	X	r	Predicted direction	Y	X	r_s	Predicted direction
Round Plain	61	25			2	2.5		
Moose Woods	36	31			4	2.5		
Standing Buffalo	76	18			1	2.5		
Wood Mountain	44	0			3	2.5		
			.0007	Yes			.50[a]	Yes [a]

[a]Results not accepted because of completely tied ranks, making the test inaccurate.

.05 = .950	.05 = (assume 1.00)
.01 = .990	.01 = (assume 1.00)

TABLE XXXVIII

NUMBER OF RESIDENT ILLEGITIMATE CHILDREN AND ALL CHILDREN, AGED 0-19, 1962-63, BY COMMUNITY

	Community			
	Round Plain	Moose Woods	Standing Buffalo[b]	Wood Mountain
No. of illegitimate children[a]	17	26	43	0
No. of legitimate children	30	38	159	10
Total resident population, aged 0-19[c]	47	64	202	10
Per cent illegitimate	36	41	21	0
Per cent: above or below mean (24%)	+	+	-	-
Per cent of highest percentage	88	100	51	0
Tentative rank of ratios	2	1	3	4
X^2 corrected rank[d]	1.5	1.5	3.5	3.5

[a] Source: field study.

[b] "Blown up" from a 45/61 households sample indicating 32 illegitimate children of a total of 149 children aged 0-19.

[c] Source: field study; see Appendix II.D.

[d] X^2 for differences between numerical ratios represented by tentative rank orders are as follows:
1 and 2 (MW-RP) : X^2 = .079
2 and 3 (RP-SB) : X^2 = 3.841*
3 and 4 (SB-WM) : X^2 = 2.67

*Significant at the .05 level.

It is useful to note for the purpose of comparison that in 1959 the proportion of illegitimate births registered for Saskatchewan was 5.3 per cent of all births. The proportion was 3.8 per cent among non-Indians and 34.1 per cent among Indians.[167]

The outcome of the tests of operational hypothesis 6(b) is presented in Table XXXIX, p. 99. It is shown that the strength of linear correlation is very insignificant and is not in the predicted direction. The same is true of the rank correlation.

Thus the null hypothesis H_o is retained, and operational hypothesis 6(b) is not supported.

The third operational hypothesis here, 6(c), is:

> The mean number of public assistance family-months per family unit in the Indian Reserve community varies directly as the ratio of the number of married residents who have separated from their legal spouses since 1950 and remain so, to the total number of married and widowed residents of the community in 1962-63.

The relevant data are presented in Table XL, p. 100. It is shown in this table that Round Plain has the highest proportion of separated spouses with 41 per cent, Wood Mountain the lowest with none, and the others both below 20 per cent.

The outcome of the tests of operational hypothesis 6(c) is presented in Table XLI, p. 101. It was concluded that the linear correlation was of insignificant strength and not in the predicted direction. The results of rank correlation were not accepted because of completely tied ranks.

Thus the null hypothesis H_o was retained, and operational hypothesis 6(c) was not supported.

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[167] See: Saskatchewan, Department of Public Health, Vital Statistics Annual Report, 1959, p. 20.

Annual Report, 1959,
Annual Report, 1959,
Annual Report, 1959,
Annual Report, 1959.

TABLE XXXIX

LINEAR CORRELATION AND RANK CORRELATION BETWEEN
DEGREE OF DEPENDENCE ON PUBLIC ASSISTANCE (Y)
AND PROPORTION OF RESIDENT CHILDREN (AGED 0-19) ILLEGITIMATE (X)

Community	Linear Correlation				Rank Correlation			
	Y	X	r	Predicted direction	Y	X	r_s	Predicted direction
Round Plain	61	36			2	1.5		
Moose Woods	36	41			4	1.5		
Standing Buffalo	76	21			1	3.5		
Wood Mountain	44	0			3	3.5		
			-.037	No			-.30	No
			.05 = .950 .01 = .990				.05 = (assume 1.00) .01 = (assume 1.00)	

TABLE XL

NUMBER OF RESIDENTS, ONCE MARRIED, WHO SEPARATED FROM LEGAL SPOUSE SINCE 1950 AND REMAIN SO, AND TOTAL NUMBER OF MARRIED AND WIDOWED RESIDENTS, 1962-63, BY COMMUNITY

	Community			
	Round Plain	Moose Woods	Standing Buffalo[b]	Wood Mountain
No. of separated spouses[a]	7	4	8	0
No. of other spouses	10	23	92	14
Total no. of spouses[c]	17	27	100	14
Per cent separated	41	15	8	0
Per cents above or below mean (16%)	+	-	-	-
Per cent of highest percentage	100	37	20	0
Tentative rank (percentages)	1	2	3	4
X^2 corrected rank[d]	2.5	2.5	2.5	2.5

[a] Source: field study.

[b] "Blown up" from a 45/61 households sample indicating 6 separated spouses of a total of 74 spouses.

[c] Source: field study.

[d] X^2 for differences between numerical ratios represented by tentative ranks:
1 and 2 (RP-MW) : X^2 = 2.587
2 and 3 (MW-SB) : X^2 = .499
3 and 4 (SB-WM) : X^2 = .290

TABLE XLI

LINEAR CORRELATION AND RANK CORRELATION BETWEEN DEGREE OF DEPENDENCE ON PUBLIC ASSISTANCE (Y) AND PROPORTION OF LEGALLY MARRIED RESIDENTS SEPARATED (X)

Community	Linear Correlation				Rank Correlation			
	Y	X	r	Predicted direction	Y	X	r_s	Predicted direction
Round Plain	61	41			2	2.5		
Moose Woods	36	15			4	2.5		
Standing Buffalo	76	8			1	2.5		
Wood Mountain	44	0			3	2.5		
			-.145	No			.50[a]	Yes[a]
			.05 = .950				.05 = (assume 1.00)	
			.01 = .990				.01 = (assume 1.00)	

[a]Results not accepted because of completely tied ranks, making the test inaccurate.

The fourth operational hypothesis here, 6(d), is:

> The mean number of public assistance family-months per family unit in the Indian Reserve community varies directly as the ratio of the number of persons charged in courts of law with drunk-disorderly-disturbance offenses (1957 to 1962 inclusive), to the total number of persons in the resident population, aged fifteen and over in 1962-63.

The relevant data are presented in Table XLII, p. 103. Although the data come from different types of sources (Round Plain and Moose Woods from court card files and the other two from general conversation with police officers), it was concluded that the only possibility of overlapping rank was between Moose Woods and Wood Mountain, and that there were noticeable differences among the communities. Standing Buffalo stands out as having considerably more experience with this type of legal offense than the others.

The outcome of the tests of operational hypothesis 6(d) is presented in Table XLIII, p. 104. It was concluded from this table that the strength of the linear correlation was not quite significant at the .05 level, although the direction was as predicted. The same was concluded regarding rank correlation.

Thus the null hypothesis H_o was retained, and operational hypothesis 6(d) was not accepted.

The fifth operational hypothesis here, and the last one of this study, 6(e), is:

> The mean number of public assistance family-months per family unit in the Indian Reserve community varies directly as the ratio of the number of persons charged in courts of law with all offenses not including drunk-disturbance-disorderly offenses and traffic offenses 1957 to 1962 inclusive), to the total number of persons in the resident population aged fifteen and over in 1962-63.

TABLE XLII

NUMBER OF PERSONS, IN 1962-63 POPULATION AGED FIFTEEN AND OVER, CHARGED IN COURTS OF LAW WITH DRUNK-DISTURBANCE-DISORDERLY OFFENSES, 1957-62 INCLUSIVE, BY COMMUNITY

	Community			
	Round Plain	Moose Woods	Standing Buffalo	Wood Mountain
No. charged with drunk, etc. offenses, 1957-62 incl.[a]	11	8	137±60	5±2
No. not charged	25	51	60±60	19±2
Total population aged 15 and over[b]	36	59	197	24
Per cent charged	31	14	70±30	21±8
Percentage: above or below mean (34%)	-	-	+	-
Per cent of highest percentage	44	20	100	30
Tentative rank (percentages)	2	4	1	3
X^2 corrected rank[c]	3	3	1	3

[a] Source: varied. See Appendix X.

[b] Source: field study. See Appendix II.D.

[c] X^2 for differences between numerical ratios represented by tentative rank orders are as follows:
1 and 2 (SB-RP) : $X^2 = 18.32$**
2 and 3 (RP-WM) : $X^2 = .287$
3 and 4 (WM-MW) : $X2 = .239$

**Significant at the .01 level.

TABLE XLIII

LINEAR CORRELATION AND RANK CORRELATION BETWEEN DEGREE OF DEPENDENCE ON PUBLIC ASSISTANCE (Y) AND PROPORTION OF RESIDENTS (AGED 15 AND OVER) CHARGED WITH DRUNK, ETC. OFFENSES (X)

Community	Linear Correlation				Rank Correlation			
	Y	X	r	Predicted direction	Y	X	r_s	Predicted direction
Round Plain	61	31			2	3		
Moose Woods	36	14			4	3		
Standing Buffalo	76	70			1	1		
Wood Mountain	44	21			3	3		
			.935	Yes			.80	Yes
			.05 = .950				.05 = (assume 1.00)	
			.01 = .990				.01 = (assume 1.00)	

The relevant data is shown in Table XLIV, p. 106. From this table it was concluded that only two of the communities are known to include persons who have been charged with this type of offense (assault, murder, theft, etc.) within the period specified. Round Plain has the highest proportion, with 19 per cent, while Standing Buffalo is somewhat lower.

The outcome of the tests of operational hypothesis 6(e) is presented in Table XLV, p. 107. From this table it was concluded that the strength of linear correlation was not significant, although the direction was as predicted. The same is true of the rank correlation.

Thus the null hypothesis H_o was retained, and operational hypothesis 6(e) was not confirmed.

That concludes the section giving detailed description of the populations, showing the findings of the study and the outcome of the tests.

C. SUMMARY OF OUTCOME OF TESTS

In this section a summary is presented of the outcome of the tests of the operational hypotheses: first the correlation tests, and second the chi-square test and summary tests.

The results of the two types of tests for correlation (linear correlation and rank correlation) are summarized in Table XLVI, p. 108-109.

It was concluded from Table XLVI that only two of the twenty operational hypotheses yielded linear correlations of strength significant at the .05 level. At this level one out of twenty hypotheses would be expected to be confirmed purely by chance, thus two confirmations are one more than would be expected purely by chance.

TABLE XLIV

NUMBER OF PERSONS, IN 1962-63 POPULATION AGED FIFTEEN AND OVER, CHARGED IN COURTS OF LAW WITH ALL OFFENSES NOT INCLUDING DRUNK-DISTURBANCE-DISORDERLY OFFENSES AND TRAFFIC OFFENSES, 1957-62 INCLUSIVE, BY COMMUNITY

	Community			
	Round Plain	Moose Woods	Standing Buffalo	Wood Mountain
No. charged with all offenses, (not including traffic and drunk, etc. offenses), 1957-62 inclusive.[a]	7	0	10±3	0
No. not charged	29	59	187±3	24
Total population aged 15 and over[b]	36	59	197	24
Per cent charged	19	0	5±2	0
Per cent: above or below mean (6%)	+	-	-	-
Per cent of highest percentage	100	0	26	0
Tentative rank (percentages)	1	3.5	2	3.5
X^2 corrected rank[c]	1	3	3	3

[a]Sources: varied. See Appendix X.

[b]Source: field study. See Appendix II.D.

[c]X^2 for differences between numerical ratios represented by tentative rank are as follows:
1 - 2 (RP-SB) : X^2 = 7.15**
2 - 3 (SB-MW) : X^2 = 1.911
3.5-3.5 (MW-WM) : X^2 = 0

**Significant at the .01 level.

TABLE XLV

LINEAR CORRELATION AND RANK CORRELATION BETWEEN DEGREE OF DEPENDENCE ON PUBLIC ASSISTANCE (Y) AND PROPORTION OF RESIDENTS (AGED 15 AND OVER) CHARGED WITH ASSAULT, MURDER, ETC., (X)

Community	Linear Correlation				Rank Correlation			
	Y	X	r	Predicted direction	Y	X	r_s	Predicted direction
Round Plain	61	19			2	1		
Moose Woods	36	0			4	3		
Standing Buffalo	76	5			1	3		
Wood Mountain	44	0			3	3		
			.509	Yes			.40	Yes
			.05 = .950				.05 = (assume 1.00)	
			.01 = .990				.01 = (assume 1.00)	

TABLE XLVI

SUMMARY TABULATION OF RESULTS OF TESTS FOR LINEAR CORRELATION AND RANK CORRELATION BETWEEN DEGREE OF DEPENDENCE ON PUBLIC ASSISTANCE (Y) AND SELECTED VARIABLES (X), BY OPERATIONAL HYPOTHESIS

Operational hypotheses		Linear Correlation		Rank Correlation	
No.	Variable X	r	Predicted direction?	r_s	Predicted direction?
1(a)	Population increase[a]	.81	yes	.75	yes
1(b)	Population aged 20 to 64[a]	-.53	yes	(b)	(b)
2(a)	Population density of I.R.	.75	yes	.65	yes
2(b)	Population of I.R.'s near	.937	yes	.95	yes
2(c)	Population density of R.M.	.68	yes	.75	yes
2(d)	R.M. assessment per capita	-.34	yes	-.25	yes
2(e)	I.R. hypothesis assessment per capita	-.32	yes	-.05	yes
3(a)	Population resid. on farm	-.964*	yes	-.85	yes
3(b)	Man-days labor per capita	-.41	yes	0	-
3(c)	Earned income (per cent)	-.92	yes	-.70	yes
3(d)	Mean e.p. income per h.h.	-.57	yes	-.40	yes
3(e)	Mean e.p. income per capita	-.62	yes	-.60	yes
4(a)	Mean Sewell h'h. score	-.47	yes	0	-
4(b)	Mean L. of Living score	-.58	yes	0	-
5(a)	$I = \frac{(P_1P_2)^{1/2}}{D^2}$	.952*	yes	.80	yes
6(a)	Unmarried mothers[a]	.007	yes	(b)	(b)
6(b)	Illegitimate children[a]	-.037	no	-.3	no

Table XLVI (Continued)

Operational hypothesis	Linear Correlation		Rank Correlation	
No. Variable X	r	Predicted direction?	r_s	Predicted direction?
6(c) Separated spouses[a]	-.145	no	(b)	(b)
6(d) Legal: drunk, etc.[a]	.935	yes	.8	yes
6(e) Legal: murder, etc.[a]	.509	yes	.4	yes
Sum for twenty operational hypotheses:	r	r	r_s	r_s
Strength of correlation				
significant at .01 level	0		0	
significant at .05 level	2		0	
not significant	18		20	
Total	20		20	
Direction of correlation				
as predicted		18		13
not as predicted		2		1
nil		0		6
Total		20		20

[a]Actual percentages representing proportion of the maximum possible percentage were used for both variables. In all cases not thus marked, percentages used for r represent the per cent of the highest of the four values obtained for the given variable for the four committees; in 4(a) that per cent represents the percentage of the highest truncated score.

[b]Rank correlation coefficient of r_s = .50 was not accepted because of completely tied ranks (no X^2 significant differences between ranks at the .05 level).

*Significant at the .05 level.

Therefore, the null hypothesis H_o, that the set of twenty operational hypotheses yielded results the same as those which would be expected to occur by chance, must be rejected, while one of the two hypotheses yielding significant correlation must be accepted. No means exists in this study to select one above the other. Thus to avoid rejecting a prediction that is actually true, this writer has decided to accept both hypotheses tentatively, and to retain them for further testing.

It was also concluded from Table XLVI that only two of the twenty operational hypotheses yielded linear correlations which were not in the predicted direction. These correlations were of very low strength, both below .20. Only one other linear correlation was that low.

It is also indicated that none of the twenty operational hypotheses yielded rank correlations of strength significant at the .05 level. Because of built-in limitations in the design of the research project, rank correlation of significant strength in the case of a given operational hypothesis could have occurred only if there had been perfect one-to-one correlation between the two sets of ranks involved. This did not occur.

It is also shown in Table XLVI that only one of the twenty operational hypotheses yielded rank correlations which were not in the predicted direction, and this correlation was very low in strength. However, six either yielded no correlation and thus no indications of direction, or were not accepted by the writer because of completely tied ranks which made the test inaccurate.

The second of the two summarizing tables in this section is Table XLVII, p. 112-13. It shows the results of the chi-square (X^2) test, and the simplified sum of ranks test and sum of sign ranks.

Regarding chi-square tests, it was concluded from Table XLVII that of the twenty operational hypotheses, three hypotheses yielded three out of three differences significant at the .05 level, seven yielded two out of three, seven yielded one out of three, and three yielded none of the three differences significant. Thus, of the sixty tests performed, thirty showed significant differences.

Regarding the simplified sum of ranks test, it was concluded from Table XLVII that of the total sum of ranks of 200 (twenty operational hypotheses) Round Plain obtained 37.0, Moose Woods obtained 55.0, Standing Buffalo obtained 39.5, and Wood Mountain obtained 68.5, as compared to a mean of 50.0. Using 80.0 as the maximum possible sum of ranks for each community, the X^2 corrected rank order becomes 3.5-2-3.5-1 for the communities arranged in respective order.

The strength of linear correlation between sets of percentages representing per cent of maximum possible degree of public assistance and per cent of maximum possible sum of ranks is not significant at the .05 level, although in the predicted direction. (In fact, r= -.769). The same is true of the rank correlation between these two variables.

The frequency of ranks below 2.5 (that is, 3, 3.5, and 4) for the four communities is 2, 10, 3, 16 respectively. From this it is concluded that the two least economically dependent communities, Moose Woods and Wood Mountain, received 26 low ranks as compared to only 5 low ranks for Round Plain and Standing Buffalo. This is a substantial difference.

TABLE XLVII

SUMMARY TABULATION OF RESULTS OF CHI-SQUARE TESTS, SUM OF RANKS TEST, AND SUM OF SIGN RANKS TEST, FOR RELATIONSHIP BETWEEN DEGREE OF DEPENDENCE ON PUBLIC ASSISTANCE (Y) AND SELECTED VARIABLES (X), BY OPERATIONAL HYPOTHESIS

Operational hypothesis number	No. of X^2 sig. diffs. between tentative ranks[a]	Numerical rank orders corrected for significance and direction				Sign rank orders corrected for direction			
Community		RP	MW	SB	WM	RP	MW	SB	WM
0	3 of 3	2	4	1	3	+	-	+	-
1(a)	2	1.5	3	1.5	4	+	-	+	-
1(b)	0	2.5	2.5	2.5	2.5	+	+	+	-
2(a)	2	2.5	2.5	1	4	-	-	+	-
2(b)	2	2	3.5	1	3.5	-	-	+	-
2(c)	2	1	3.5	2	3.5	+	-	+	-
2(d)	2	1	2.5	2.5	4	+	+	+	-
2(e)	2	3	1.5	1.5	4	-	+	+	-
3(a)	2	1.5	4	1.5	3	+	-	+	-
3(b)	1	2	2	2	4	+	+	+	-
3(c)	1	1.5	3.5	1.5	3.5	+	-	+	-
3(d)	3	1	4	3	2	+	-	+	+
3(e)	3	1	3	2	4	+	-	+	-
4(a)	1	2	2	2	4	+	+	+	-
4(b)	1	2	2	2	4	+	+	+	-
5(a)	3	2	3	1	4	+	-	+	-
6(a)	0	2.5	2.5	2.5	2.5	+	+	-	-
6(b)	1	1.5	1.5	3.5	3.5	+	+	-	-

TABLE XLVII (Continued)

Operational hypothesis number	No. of X^2 sig. diffs. between tentative ranks[a]	Numerical rank orders corrected for significance and direction				Sign rank orders corrected for direction			
6(c)	0	2.5	2.5	2.5	2.5	+	-	-	-
6(d)	1	3	3	1	3	-	-	+	-
6(e)	1	1	3	3	3	+	-	-	-
Sum:									
X^2 tests:[b]									
significant: 30 (of total of 60 tests)									
Sum of ranks test:[c]									
Round Plain		37.0							
Moose Woods			55.0						
Standing Buffalo				39.5					
Wood Mountain		-			68.5				
Total			200						
Sum of sign ranks test:									
positive ranks						16	8	16	1
negative ranks						4	12	4	19
Total						20	20	20	20

[a]The maximum possible value was used as the chi-square total for 0 through 2(a), and 6(a) through 6(e).

[b]X^2 tests:

No. of operational hypotheses with significant differences		no. of tests sig.	not sig.	total
with 3 significant differences:	3	9	0	9
with 2 significant differences:	7	14	7	21
with 1 significant difference:	7	7	14	21
with 0 significant difference:	3	0	9	9
Total	20	30	30	60

[c]Sum of ranks test: continued on next page.

It was concluded from Table XLVII regarding the simplified sum of sign ranks test, that of the total sum of sign ranks of 80 (41 positive signs and 39 negative signs), Round Plain obtained 16 positive sign ranks, Moose Woods obtained 8, Standing Buffalo obtained 16, and Wood Mountain obtained only 1. Thus it is shown that the two least economically dependent communities, Moose Woods and Wood Mountain, received 9 positive ranks as compared to 32 positive ranks for the other two communities.

The pattern of relationships which emerges from the results of the three types of tests summarized in Table XLVII is indicated diagramatically in Figure 3, p.115.

The general conclusion made from the results shown in Table XLVII was that regardless of the type of test used, Moose Woods and Wood Mountain, the two least economically dependent communities, rank higher in numerical ranks and in negative sign ranks than the two more economically dependent communities, Round Plain and Standing Buffalo.

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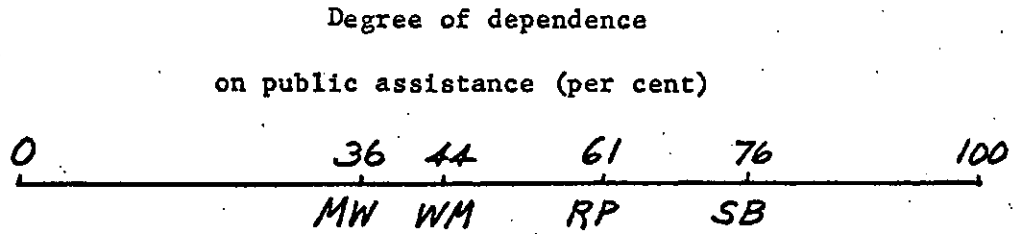
[c] Sum of ranks test:

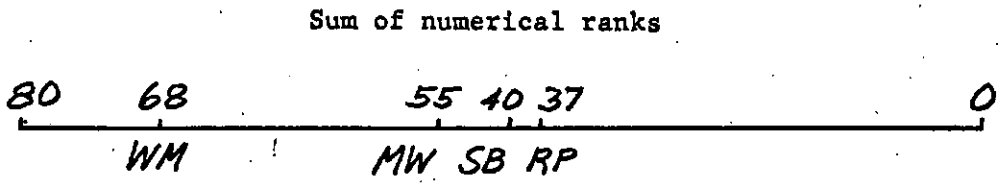
	Community			
	RP	MW	SB	WM
Sum of ranks	37.0	55.0	39.5	68.5
Per cent of maximum possible sum (80)	46	69	49	86
Tentative rank	4	2	3	1
X^2 corrected rank	3.5	2	3.5	1

X^2 for differences between percentages when arranged in tentative rank:

1 and 2 (WM-MW) : X^2 = 7.34** **Significant at the .05 level.
2 and 3 (MW-SB) : X^2 = 7.46**
3 and 4 (SB-RP) : X^2 = .080

r = -.769 (strength not significant, but in predicted direction).
r_s = .650 (strength not significant, but in predicted direction).





Key:

RP: Round Plain	SB: Standing Buffalo
MW: Moose Woods	WM: Wood Mountain

FIGURE 3

PATTERN OF RELATIONSHIPS BETWEEN DEGREE OF DEPENDENCE ON PUBLIC ASSISTANCE AND OTHER VARIABLES INDICATED BY SUM OF RANKS TEST AND SUM OF SIGN RANKS TEST OF OPERATIONAL HYPOTHESES

Although in this thesis no specific operational hypotheses were set up to utilize the two summary tests referred to in Table XLVII, this is the result which would be predicted from the theoretical hypotheses.

To summarize the conclusions drawn from these two tables, the following statement is made: although the particular statistical tests of correlation used (see Table XLVI) show only two of the operational hypotheses to possess statistically significant strength of correlation, to not be rejected, the general pattern of results (see Table XLVII and Figure 3) shows the differences between the two least economically dependent communities on the one hand, and the two most economically dependent communities on the other hand, to be as predicted.

Thus it would appear that the theoretical hypotheses developed in Chapter One and defined operationally in Chapter Two possess some power for explaining variations in the degree of economic dependence.

CHAPTER IV

CONCLUSION

In this chapter the study is evaluated, and the conclusions are discussed briefly. First, an attempt is made to evaluate the study. Then, a brief tabular summary of the findings in the literature is presented. This is followed by a summary of the most significant findings of the study. The chapter concludes with some suggestions for future studies.

A. EVALUATION

The first thing to be noted in evaluating the study is that the two summary tests, (sum of ranks test and sum of sign ranks test), used to indicate the general pattern of relationship of variables in the study (see table XLVII, p. 112-13, and Fig. 3, p. 115, in the previous chapter) show the results expected from the theoretical hypotheses, if one condition is granted: that the communities are not compared individually as four communities, but as two categories: the two most economically dependent and the two least economically dependent.

Second, the two tests for correlation used to test the twenty operational hypotheses individually (see table XLVI, p. 108-9, in the previous chapter) show practically all of the non-zero correlations to be in the predicted direction.

Third, the test for linear correlation (r) suggests that two of the twenty operational hypotheses must not be rejected because they yield linear correlations higher than the .05 level expected purely from chance.

Fourth, the test for rank correlation (rs) yields no rank correlations high enough to consider statistically significant. In this case the value of 1.00, or perfect one-to-one correlation, was required. Obviously there were too few communities for this type of analysis to be useful. The initial choice of only four communities almost precluded the possibility of getting statistically significant results in the test for rank correlation. This drawback in research design could have been countered by the use of inter-household comparison, which the writer collected data for but did not use.

The fact that two of the particular statistics chosen by the writer to verify his findings yielded only two "statistically significant" linear correlations should not lead necessarily to the rejection of a potentially valuable frame of reference or hypothesis. These tests, like all other tests, are not final,transcendental indicators of validity. The choice of these tests by the writer is culturally conditioned.

Regarding certain techniques, first, the use of the chi-square test for significance of differences between values could be questioned in some cases. With several operational hypotheses, where there was no maximum possible value to use as a total for the two-by-two table, the highest value obtained was used in its place.[168]

The accuracy of the expression used to measure degree of dependence on public assistance depends on the accuracy of the figures representing the number of family units in the community, used to calculate the maximum possible public assistance receivable.[169] If,

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[168] See footnote a, Table XLVII, p. 113.

[169] See Table II, p. 42.

[170,171] Omitted.

difference in the number of job oppportunities. Moose Woods is close to a military camp which provides considerable employment.

The only operational hypotheses in which the numerical rank of Wood Mountain is quite different from that predicted is 3(d), regarding earned personal income per household.[174] The reason this rank differs markedly from the rank for earned personal income per capita, is the small average number of persons per household. Two of the nine households consisted of single men.

Regarding the $\frac{\text{population}}{\text{distance}}$ factor discussed in Chapter Two,[175] of a number of possible forms of the expression the writer chose the form which suited the data best.

Regarding signs of disorganization, also discussed in Chapter Two,[176] a possible criticism could be made that illegitimate births and separation of spouses may not mean the same to the groups referred to by Thomas and Znaniecki, Lind, etc. as it would to these groups of different cultural background. However, insofar as the writer can determine from Dakota informants and several historical works, "Adultery was condemned among the Dakota by public opinion, and was sometimes severely punished. . .,[177] and ". . . unchastity in the unmarried was not in good repute", especially for females,[178] at the time of contact with the non-Indians. Thus the occurrence of illegitimate births would indicate lack of social control.

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[174] See Table XXVI, p. 79.

[175] See pp. 27-29.

[176] See pp. 31-34.

[177] S. W. Pond, "The Dakotas or Sioux as They were in 1834," Collection, Minnesota Historical Society, XII (1908) p. 459; (see also p. 456).

[178] so pp. 453, 465.

The fact that the operational hypotheses regarding illegitimate births yielded negative correlation, (although only slightly so)[179] suggests comment. The impression of the writer is that at Standing Buffalo a number of the females aged fifteen to twenty-four were absent from the community, and their children were being raised by relatives. Whether these children were legitimate or not was not always determined by the writer. They are assumed legitimate unless known to be otherwise. Thus a misleadingly low value may have been given for Standing Buffalo in this regard.

Regarding the number of separated spouses, as well as illegitimate births, the Standing Buffalo sample of 45 out of 61 households may not be representative because its selection was determined in part by who was home when the writer called.

A number of other points regarding reliability of data were indicated in Chapter Three.

B. BRIEF SUMMARY OF FINDINGS IN THE LITERATURE

In this section an attempt is made to summarize in tabular form the results of a review of the sociological and anthropological literature for factors related to economic dependence among Indian groups in Canada and the United States, using the frame of reference developed in Chapter One.

A study was considered relevant to this analysis by reason of its reference to the presence or absence of economic dependence (as defined theoretically in Chapter One)[180] and to one or more of the

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[179] See Table XXXIX, p. 99.

[180] See p.4.

variables suggested by this study, (in Chapter One)[181] as being correlates of economic dependence. The approximate locations of the areas studied are shown in Figure 4, p. 123. The number of studies which make statements supportive or non-supportive of the theoretical hypotheses of this study is shown in Table XLVIII, p. 124.

From Table XLVIII it is seen that of the eighteen studies considered relevant to this frame of reference, eighteen had statements which supported various hypotheses arising from the frame of reference of this study. However, two of these made statements which did not support certain hypotheses of the study. Of the supportive studies, fifteen made reference to the presence of economic dependence and five referred to economic non-dependence. The two partially non-supportive studies referred to the presence of economic dependence.

In one of the two latter studies, Dunning refers to the relatively high degree of economic dependence and the physical isolation of the Pekangekum band of Northern Ojibwa in north western Ontario. In describing the community he indicates considerable social organization along traditional, although modified, lines, (as compared to social disorganization).

In the other partially non-supportive study, Stewart refers to the relatively economically dependent Ignacio community of Southern Ute in Colorado. He points out the high infant mortality rate and the slow rate of natural increase. He also refers to the adequate acreage of "fertile, productive land".[182]

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[181] See p. 2-3.

[182] Stewart, op. cit., pp. 86-87.

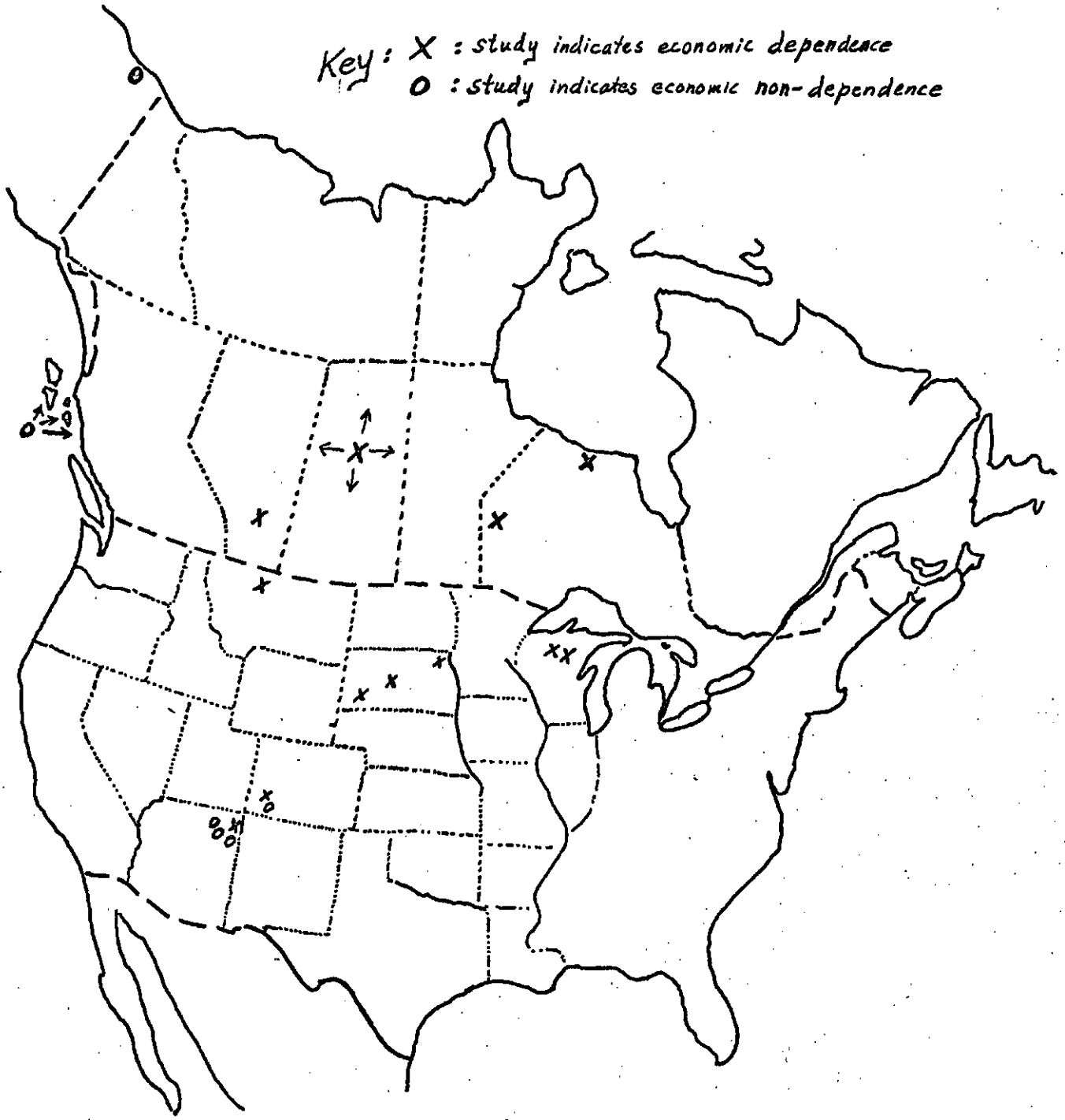

FIGURE 4

GEOGRAPHIC DISTRIBUTION OF STUDIES OF INDIAN COMMUNITIES IN CANADA AND U.S.A. WHICH MAKE REFERENCE TO ECONOMIC DEPENDENCE AND CERTAIN RELATED FACTORS PERTINENT TO THIS STUDY, 1940-1963.

TABLE XLVIII

NUMBER OF STUDIES MAKING REFERENCE TO ECONOMIC DEPENDENCE OR ECONOMIC NON-DEPENDENCE AND CERTAIN VARIABLES INCLUDED IN THE FRAME OF REFERENCE OF THIS STUDY

Variable with predicted relationship to economic dependence	Supportive re: economic		Non-supportive re: economic		Total no. of studies
	dependence	non-dependence	dependence	non-dependence	
1. Population: increase, youthful age distribution	7[a]	-	1[b]	-	8
2. Economic base: loss, inadequacy, instability	10[c]	3[d]	1[e]	-	14
3. Sustenance activity: type, amount	15[f]	6[g]	2[h]	-	18
4. Scale of living	15[i]	6[j]	2[k]	-	18
5. $\frac{P_1P_2}{D}$: population concentration, distance from urban centers	3[l]	1[m]	1[n]	-	5
6. Signs of disorganization: family break-up, crime	4[o]	1[p]	1[q]	-	6
Total number of studies	15	5	2	-	18
	18		2		18

[a] See (i) R. W. Dunning, Social and Economic Change Among the Northern Ojibwa (Toronto: University of Toronto Press, 1959); (ii) Ernest Schusky, Politics and Planning in a Dakota Indian Community (Vermillion: Institute for Indian Studies, State University of South Dakota, 1959); (iii) Clyde Kluckholn and Dorothea Leighton, The Navaho (Cambridge: Harvard University Press, 1960); (iv) Parliament of Canada, Joint Committee of the Senate and the House of Commons on Indian Affairs, Minutes of Proceedings and Evidence No. 12. A Submission by the Government of Saskatchewan (Ottawa: 1960); (vi) Helen Buckley, Trapping and Fishing in the Economy of Northern Saskatchewan: Report No. 3, Economic and Social Survey of Northern Saskatchewan (Saskatoon: Research Division, Center for Community Studies, University of Saskatchewan, 1962. (footnotes continued on next page).

However, at the same time it is Stewart's findings which give the most substantial support to the two operational hypotheses which were confirmed in this study, as it is shown in the following section.

(vii) Thomas S. McPartland, A Preliminary Socio-Economic Study of the Sisseton-Wahpeton Sioux (Vermillion, S. D. Institute of Indian Studies, University of South Dakota, 1955); (viii) Vernon Malan, The Dakota Indian Economy (Brookings, S. D.: Rural Sociology Department, Agricultural Experiment Station, South Dakota State College, 1963);

[b]See: Omer C. Stewart, "Southern Ute Adjustment to Modern Living", in Acculturation in the Americas: Proceedings and Selected Papers of the XXIX th International Congress of Americanists, Sol Tax, editor (Chicago: University of Chicago Press, 1952), pp. 80-87.

[c]See: (i) Gordon MacGregor, Warriors Without Weapons: A Study of the Society and Personality Development of the Pine Ridge Sioux (Chicago: University of Chicago Press, 1946); (ii) Lucien M. Hanks, Jr. and Jane R. Hanks, Tribe Under Trust: A Study of the Blackfoot Reserve of Alberta (Toronto: University of Troonto Press, 1950); (iii) John J. Honigmann, "Interpersonal Relations and Ideology in a Northern Canadian Community", Social Forces, XXXV (1956-57) p. 365 ff; (iv) Dunning, op. cit.; (v) Kluckhohn, op. cit.; (vi) Parliament of Canada, op. cit.; (vii) Buckley, op. cit.; (viii) Mary Shepardson, "The Navaho", American Anthropological Association Memoir 96, 1963; (ix) Ernestine Friedl, "Persistence in Chippewa Culture and Personality", American Anthropologist, LVIII (1956) p. 814 ff,; (x) Bernard J. James, "Social Psychological Dimensions of Ojibwa Acculturation", American Anthropologist, LXIII (August, 1961) pp. 721-46.

[d]See: (i) Laura Thompson, Culture in Crisis: A Study of the Hopi Indians (New York: Harper, 1950); (ii) H. B. Hawthorn, C. S. Belshaw, and S. M. Jamieson, The Indians of British Columbia: A Study of Contemporary Social Adjustment (Toronto: University of Toronto Press, 1958); (iii) Kluckhohn, op. cit.

[e]See: (i) Stewart, op. cit.

[f,i]All sources mentioned elsewhere in this column (Table footnotes a, c, i, l, and o) make some reference to sustenance activity and scale of living.

[g,j]All sources mentioned elsewhere in this column make some reference to sustenance activity and scale of living. (footnotes continued on next page).

C. BRIEF SUMMARY OF FINDINGS OF THE STUDY

In this section the most significant findings of the study are reviewed, referring here to the analysis of both the four communities and the literature.

The study revealed that two of the four Dakota (Sioux) Indian Reserve communities in Saskatchewan, Moose Woods and Wood Mountain, are relatively lower in their degree of economic dependence than the other two communities, Round Plain and Standing Buffalo.

The study also showed that a much higher proportion of the resident population of Moose Woods and Wood Mountain reported farm residence (as opposed to non-farm residence) than was the case in the other two communities.

The study indicated that Moose Woods and Wood Mountain were considerably farther away from large urban centers than were Round Plain and Standing Buffalo, as measured by a $\frac{\text{population}}{\text{distance}}$ factor.

[h,k] All sources mentioned elsewhere in this column make some reference to sustenance activity and scale of living.

[l] See: (i) Norman S. Hayner, "Three Generations of Pacific Northwest Indians", American Sociological Review, VIII (1943) p. 650 ff.; (ii) Stewart, op. cit.; (iii) James, op. cit.

[m] See: Stewart, op. cit.

[n] See: Dunning, op. cit.

[o] See: (i) Hayner, op. cit.; (ii) MacGregor, op. cit.; (iii) Stewart, op. cit.; (iv) James, op. cit.

[p] See: (i) Hayner, op. cit.

[q] See: (i) Dunning, op. cit.

The study revealed a statistically significant strength of correlation between degree of economic dependence (as operationally defined) and degree of non-farm residence. The study also revealed a statistically significant strength of correlation between degree of economic dependence and a $\frac{\text{population}}{\text{distance}}$ factor (operationally defined).

The general pattern of results appears to indicate that the hypotheses developed in Chapter One and defined operationally in Chapter Two possess some power to explain variations in degree of economic dependence. Also, substantial support is given to the two confirmed operational hypotheses by Stewart's findings. In 1952 Stewart gives the results of a study which compares two Southern Ute communities, Ignatio and Towaoc. He notes that "One obvious difference between the two groups is the amount of government assistance offered and accepted. „[183] He reports that "The Ignatio Indians, living on fertile, productive land near the agency office, from which they could readily receive aid . .",[184] and near the non-Indian community, carried on only a limited amount of active farming. He states that they " . . . have been unsuccessful in acquiring the mixed agricultural-cattle raising economy best suited to their area",[185] and have a relatively high degree of economic dependence. In contrast, living in a more isolated mountain area, "The Towaoc Ute, on land fit only for grazing . . . have learned to carry on successfully the modern American cattle

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[183] Loc. cit.

[184] Loc. cit.

[185] Loc. cit.

raising culture which fits their environment."[186] The Towaoc have a relatively low degree of economic dependence, he reports.

By making a comparison between on the one hand, Moose Woods, Wood Mountain, and the Towaoc Ute, and on the other hand, Round Plain, Standing Buffalo, and the Ignatio Ute, a remarkable parallel is seen not only in terms of degree of economic dependence, but in terms of farm residence and type of farming (cattle ranching as opposed to grain farming), and distance from the nearest non-Indian community and distance from the Indian agency office.[187] There is also a parallel in terms of soil fertility and to some extent, topography.

Thus it is shown that the significant results of the inter-community analysis discussed in this thesis support Stewart and the findings he reports in 1952. Other findings of Stewart, which are outside the frame of reference of this thesis, are introduced in the next section as guides for further research.

D. SUGGESTIONS FOR FURTHER RESEARCH

In this section certain recommendations and speculations are made regarding future studies. Two directions in which research could be carried on are suggested by the two significant findings of this study.

First, the fact that a statistically significant correlation was found between high economic dependence and a high $\frac{\text{population}}{\text{distance}}$ factor

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[186] Loc. cit.

[187] The distance to the Indian agency office for the four Saskatchewan communities is: for Round Plain, about eight miles; for Moose Woods, about ninety miles; for Standing Buffalo, about six miles; and for Wood Mountain, about two hundred and fifteen miles.

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(that is, low distance) suggests that a fruitful approach to the study of economic dependence may well lie in the study of social interaction, communication, and differential association, between Indians and non-Indians, and among Indians themselves. Stewart notes the strong negative stereotypes held by local non-Indians about the Ute Indians, as a possible cause of the apathy related to economic dependence. He also refers to the discouraging effect of exploitation and discrimination.[188]

The importance of persisting Anglo-American racial attitudes is also noted by Vogt, who states that "biological miscegenation leads to profoundly different self-conceptions and evaluations". . .[189]

James also notes the importance of negative stereotypes, and punishment for racial visibility, in the development of a self-image characterized by "status inferiority", and a personality marked by marginality and ambivalence.[190] In relating this to economic dependence, James states:"Many of the personality traits which are attributed to a persistent "atomism" of southern Chippewa culture appear to be simply the social-psychological consequences of the pauper economy and socially depressed conditions of the reservations to-day."[191]

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[188]Stewart, op. cit., p. 87.

[189]Evon Z. Vogt, "The Acculturation of American Indians", The Annals of the American Academy of Political and Social Science, CCCXI (May, 1957), pp. 144-45.

[190]See: James, op. cit.

[191]Bernard J. James, "Some Critical Observations Concerning Analyses of Chippewa "Atomism" and Chippewa Personality" (Brief Communications) American Anthropologist, LVI (1954), pp. 283 ff.

That this suggestion may have value with respect to non-Indian communities as well is indicated by other writings not necessarily in the sociological literature.[192]

Although a number of studies discuss interactional processes (such as socialization, acculturation, etc.) by which the motivations, value orientations, and skills necessary for contemporary economic adaptations are acquired,[193] much remains to be done in this regard.

Second, the fact that a statistically significant correlation was found between high economic dependence and low farm residence suggests that another useful approach to the study of economic dependence may lie in the study of Indian Reserve agricultural resource potential and in the cultural problems related to the utilization of these resources. Stewart points out the important influence of the "persistence of old cultural values and practices"[194] on the adjustment of the Southern Ute

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[192]See: (i) Bernard Asbell, "Not Like Other Children", Redbook, CXXI (October, 1963), pp. 64 ff.; (ii) Michael Murphy, "The Valley of Poverty", LIFE, LVI, (January 31, 1964), pp. 54 ff.

[193]See: (i) Edward M. Bruner, "Primary Group Experience and the Processes of Acculturation", American Anthropologist, LVIII (1956) pp. 605 ff.; (ii) Gordon K. Hirabayashi and Cecil L. French, "Poverty, Poor Acculturation and Apathy: Factors in the Social Status of Some Albert Metis", a paper prepared for oral presentation at the Canadian Political Science Association Thirty-third Annual Meeting, Montreal, June 8, 1961.; (iii) Stephen T. Boggs, "Culture Change and the Personality of Ojibwa Children", American Anthropologist, LX (1958), pp. 47 ff.; (iv) George Spindler, "Research Design and Ojibwa Personality Persistence" (Brief Communications) American Anthropologist, LX (1958) p. 934.; (v) George D. Spindler and Louise Spindler, "Male and Female Adaptations in Culture Change", American Anthropologist, LX (1958) pp. 217 ff.; (vi) Allan C. Kerckhoff, "Anomie and Achievement Motivation: A Study of Personality Development Within Cultural Disorganization," Social Forces, XXXVII (March, 1959), pp. 196-202.

[194]Stewart, op. cit. p. 87.

to modern American culture, especially economic life. While not explicitly stating that the Southern Ute culture was more suited to cattle ranching than grain farming, Stewart leads one to suspect this from his findings.

What appears important for economic non-dependence is not necessarily the publicly assessed land value, but what Quinn calls the "culturally defined environment",[195] resources as seen from the viewpoint of a particular cultural group. Important factors to analyse may be "the specific meanings given to the environmental resources they utilize, and . . . the specific knowledge, skills, and tools they use in the ecological processes of adjustment".[196]

The fact that economic non-dependence or economic well-being is associated with continuity of the traditional subsistence role, or a modified subsistence role which retains a number of elements in continuity with the traditional role, is suggested by a number of studies.[197] However, the importance of cultural factors such as the "goodness of fit" of certain occupational roles to certain cultural or sub-cultural value orientations is not fully explored.

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[195] James A. Quinn, Human Ecology (New York: Prentice-Hall, Inc., 1950), p. 24. Italicized in original.

[196] James A. Quinn, "Discussion of Hollingshead's'Comunity Research: Development and Present Condition'" in Studies in Human Ecology, George A. Theodorson, editor (Evanston, Illinois: Row, Peterson and Company, 1961) p. 142.

[197] See: (i) John Gillin, "Acquired Drives in Culture Contact", American Anthropologist, XLIV (1942) pp. 545 ff.; (ii) Joyce Wike, "Problems in Fur Trade Analysis: The Northwest Coast", American Anthropologist, LX (1958) pp. 1086 ff.; (iii) George Spindler, op. cit.

In conclusion, because both of these general approaches to the study of economic dependence were suggested by the findings of this study, it would be well to refer to a statement made by one of the three primary writers whose works provided the frame of reference of this thesis. Redfield states:

> Contact and communication initiate changes which go on partly under the guidance principle provided by the source of the communications and partly of the adaptive necessities of the social situation as it comes to be.[198]

Understanding of economic dependence may well be gained by viewing economic dependence as a form of adaptation to the "necessities of the social situation" and all which that may imply in terms of economic instability, cultural conflict, political wardship and ineffectiveness, status inferiority, ambivalence of self-image, lack of "successful" role models, and lack of skills, education and"common-sense knowledge" required in the off-reserve world.

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[198]Robert Redfield, The Folk Culture of Yucatan (Chicago: University of Chicago Press, 1941) p. 361.

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Diary, Wed.,March 6, 1963 (Source: Fort Qu'Appelle Town Police, general data obtained in conversation).

Diary, Thurs., May 30, 1963 (Source: Royal Canadian Mounted Police, Hanley Detachment, data obtained vocally from card files).

Diary, Sat., June 1, 1963 (Source: Royal Canadian Mountain Police, Mankota detachment, general data obtained in conversation).

(The foregoing data are summarized in Appendix X.)

MAPS

Saskatchewan, Department of Natural Resources, map of Saskatchewan (produced 1954).

PERSONAL CORRESPONDENCE OF THE WRITER

Letter from R. F. Battle, Director, Indian Affairs Branch, Ottawa, February 4, 1964, with three appendices:
Appendix 1. Interpretation of Statistics, Surveys of Public Assistance . . . 2 pp.
Appendix 2. Survey of Indians' Earnings and Dwellings . . . Selected Reserves in Saskatchewan . . 1962, 1 p.
Appendix 3. Tabulation from I.B.M. cards of Surveys of Public Assistance . . . January, 1964, 40 pp.

Letter from J. L. Forsyth, Assistant Director, Census Division, Dominion Bureau of Statistics, Ottawa, May 14, 1963. (Summary Data for Selected Indian Reserves, Canada Censuses of Population, 1901 to 1961).

Letter from J. L. Forsyth, Assistant Director, Census Division, Dominion Bureau of Statistics, Ottawa, June 4, 1963, with appendices:
Appendix 1. Land Use Data, Canada Census of Agriculture, 1951.
Appendix 2. Summary Data, Canada Census of Agriculture, 1961.

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Appendix 1. Land Use Data, Canada Census of Agriculture, 1956.
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APPENDIX

APPENDIX I

PUBLIC ASSISTANCE

Appendix I.A, I.B, I.C, and I.D =

Surveys of Public Assistance, 1961-1963, Indian Affairs Branch

Note: see footnotes 58, 59, and 60, p. 19, Chapter Two.

Source: Personal Correspondence of the writer, letter from R. F. Battle, Director, Indian Affairs Branch, Ottawa, February 4, 1964, enclosing Appendices 1, 2, and 3 and two sample IBM cards.

The following Appendix I.A represents Appendix 1 in full,
The following Appendix I.B represents Appendix 2 in part,
The following Appendix I.C represents Appendix 3 in part,
The following Appendix I.D represents two sample IBM cards (Xerox copies).

Appendix I.E. = Annual Summary of welfare expenditure for Indians in Saskatchewan, selected years.

Appendix I.F. = Social Welfare Expenditure for Rural Municipalities and local Improvement Districts of Saskatchewan, per capita, for the year 1961.

APPENDIX I.A

Interpretation of Statistics,
Surveys of Public Assistance
February and August - 1961,
February and August - 1962,
February - 1963

Province No. 7 - Saskatchewan

Agency No. 107 - Carlton

Band No. 6 - Montreal Lake (William Charles)
9 - Sturgeon Lake (Wm. Twatts)
10 - Sioux Wahpaton
12 - Lac la Ronge
21 - Cumberland House
26 - Peter Ballantyne
28 - Red Earth
30 - Shoal Lake
31 - Lac la Hache

Agency No. 109 - Duck Lake

Band No. 02 - Beardy's and Okemasis
04 - James Smith
05 - John Smith
08 - One Arrow
10 - Moose Woods

Agency No. 114 - File Hills Qu'Appelle

Band No. 02 - Muscowpetung
03 - Pasqua
04 - Piapot
05 - Standing Buffalo
08 - Little Black Bear
09 - Okanese
10 - Peepeekisis
11 - Star Blanket
12 - Carry-the-kettle
14 - Wood Mountain
15 - Maple Creek

General Information Tabulation

'Reason' Column

0 - Unemployed
1 - Partly Employed - Income Insufficient
2 - Self-Employed - Income Insufficient
3 - Widow (er)
4 - Divorced
5 - Separated
6 - Unwed Mother
7 - Physically Handicapped
8 - Deserted
9 - Other

Reason assistance granted refers only to heads of households.

Due to a revision in I.B.M. card format in 1962 a difference in tabulation sheet layout between the 1961 surveys and those for 1962 and 1963 will be noted.

'Total Recipients' Column

On the 1961 sheets 'Total Recipients' column will be found to equal total of numbers shown in following columns:

Spouse
Employable
Unemployable
0 - 12
13 - 16
c/c ('Card Count' - which represents head of household)

On the 1962 and 1963 sheets numbers shown in 'Total Recipients' column equal total of numbers shown in following columns:

Head
Spouse
Employable
Unemployable
0 - 12
13 - 16

(Samples of both cards attached)

'Value Received' Column

Value of relief food assistance (by cheque or food order) granted during month survey conducted.

'Income' Column

Household income during month prior to that in which survey conducted.

'Agency By Reason' - (At foot of each Agency tabulation)

Data on 'General Information' sheets for each band has been consolidated by 'reason' for each of the three Agencies for which statistics have been tabulated.

Frequency by Months Tabulation

Column	"11"	- Twelfth consecutive month
	10	- Eleventh consecutive month
	9	- Tenth consecutive month
	8	- Ninth consecutive month
	7	- Eighth consecutive month
	6	- Seventh consecutive month
	5 & 4	- Fifth and sixth consecutive months combined
	3 & 2	- Third and fourth consecutive months combined
	1	- Second consecutive month
	0	- Assistance not granted previous month
	N.S.	- Not Stated

N.B. Fifth and sixth consecutive months and third and fourth consecutive months combined on account of mechanical limitations of tabulating equipment. If detailed information for each month is essential for purposes of study being conducted it can be secured by another method.

'Agency By Reason'

Data on 'Frequency by Months' sheets for each band has been consolidated by 'reason' for each of the three Agencies for which statistics have been tabulated.

APPENDIX I.B

(TABLE XLIX)

SURVEY OF INDIANS' EARNINGS AND DWELLINGS, SELECTED RESERVES IN SASKATCHEWAN, 1962

	Resident Population	Families with an annual income of: $1000 or less	$1001 to 2000	$2001 to 3000	$3001 to 4000	$4001 to 5000	$5000 and over	Families: No. of family units	Families: New family formations	Houses: Log	Houses: Frame	Houses: Total
Round Plain[a]	56	5	6	1	—	—	—	12	—	6	5	11
Moose Woods	105	22	2	1	—	—	—	25	—	6	15	21
Standing Buffalo	392	35	16	8	1	—	—	60	7	9	52	61
Wood Mountain	34	—	10	4	—	—	—	14	2	—	11	11
Total Dakota	587	62	34	14	1	—	—	111	9	21	83	104
Total Saskatchewan Region	21,080	2565	773	274	58	11	6	3594	459	1307	1914	3221

[a] Designated as "Wahpaton Sioux" in the correspondence.

APPENDIX I.C

Summary tabulation from IBM cards of Surveys of Public Assistance, 1961-1963, for four selected Indian Reserves in Saskatchewan (four tables).

Note: the data representing the number of family months, Fm, does not appear in the Indian Affairs Branch tabulation.

APPENDIX I.C

TABLE L

PUBLIC ASSISTANCE RECEIVED AT ROUND PLAIN 1961-63 SHOWING NUMBER OF FAMILY UNITS (F) RECEIVING PUBLIC ASSISTANCE, FREQUENCY BY MONTHS (m) OF PUBLIC ASSISTANCE RECEIVED PER FAMILY IN PRECEDING 12 MONTHS, AND NUMBER OF FAMILY-MONTHS, (Fm) OF PUBLIC ASSISTANCE RECEIVED

		Frequency by months (m)												
Survey		12	11	10	9	8	7	6&5	4&3	2	1	N.S.	Total F	Total Fm
No.1	F	6			1				1				8	
Feb. 1961	Fm	72			9				3					84
No.2	F	7		2					2				11	
Aug. 1961	Fm	84		20					6					110
No.3	F												?	
Feb. [a] 1962	Fm													?
No.4	F	6			1	1			1				9	
Aug. 1962	Fm	72			9	8			3					92
No.5	F	5					1						6	
Feb. 1963	Fm	60					7							67
Total		(Not including No.3, February, 1962)												353

[a] Data not available for Feb. 1962 Survey.

APPENDIX I.C

TABLE LI

PUBLIC ASSISTANCE RECEIVED AT MOOSE WOODS 1961-1963 SHOWING NUMBER OF FAMILY UNITS (F) RECEIVING PUBLIC ASSISTANCE, FREQUENCY BY MONTHS (m) OF PUBLIC ASSISTANCE RECEIVED PER FAMILY IN PRECEDING 12 MONTHS, AND NUMBER OF FAMILY-MONTHS, (Fm) OF PUBLIC ASSISTANCE RECEIVED

Frequency by months (m)

Survey		12	11	10	9	8	7	6&5	4&3	2	1	N.S.	Total F	Total Fm
No.1	F	1	3	1	1		1	5	5	1			18	
Feb. 1961	Fm	12	33	10	9		7	25	15	2				113
No.2	F	4			1			1				1	7	
Aug. 1961	Fm	48			9			5				6		68
No.3	F	4			2		6	3	2				17	
Feb. 1962	Fm	48			18		42	15	6					129
No.4	F	9											9	
Aug. 1962	Fm	108												108
No.5	F	6	1	1	2	2	1	1		1			15	
Feb. 1963	Fm	72	11	10	18	16	7	5		2				141
Total														559

APPENDIX I.C

TABLE : LII

PUBLIC ASSISTANCE RECEIVED AT STANDING BUFFALO 1961-63 SHOWING NUMBER OF FAMILY UNITS (F) RECEIVING PUBLIC ASSISTANCE, FREQUENCY BY MONTHS (m) OF PUBLIC ASSISTANCE RECEIVED PER FAMILY IN PRECEDING 12 MONTHS, AND NUMBER OF FAMILY-MONTHS (Fm) OF PUBLIC ASSISTANCE RECEIVED

Frequency by months (m)

Survey		12	11	10	9	8	7	6&5	4&3	2	1	N.S	Total F	Total Fm
No.1	F	31	1		5	4	1	1	2		2		47	
Feb. 1961	Fm	372	11		45	32	7	5	6		2			480
No.2	F	41		3					2				46	
Aug. 1961	Fm	492		30					6					528
No.3	F	36	2	1	1	1		5	2				48	
Feb. 1962	Fm	432	22	10	9	8		25	6					502
No.4	F	47	1			1			3	1			53	
Aug. 1962	Fm	564	11			8			9	2				594
No.5	F	37	2	4	4	1	1	2	2				53	
Feb. 1963	Fm	444	22	40	36	8	7	10	6					573
Total														2677

APPENDIX I.C

TABLE LIII

PUBLIC ASSISTANCE RECEIVED AT WOOD MOUNTAIN 1961-63 SHOWING NUMBER OF FAMILY UNITS (F) RECEIVING PUBLIC ASSISTANCE, FREQUENCY BY MONTHS (m) OF PUBLIC ASSISTANCE RECEIVED PER FAMILY IN PRECEDING 12 MONTHS, AND NUMBER OF FAMILY-MONTHS, (Fm) OF PUBLIC ASSISTANCE RECEIVED

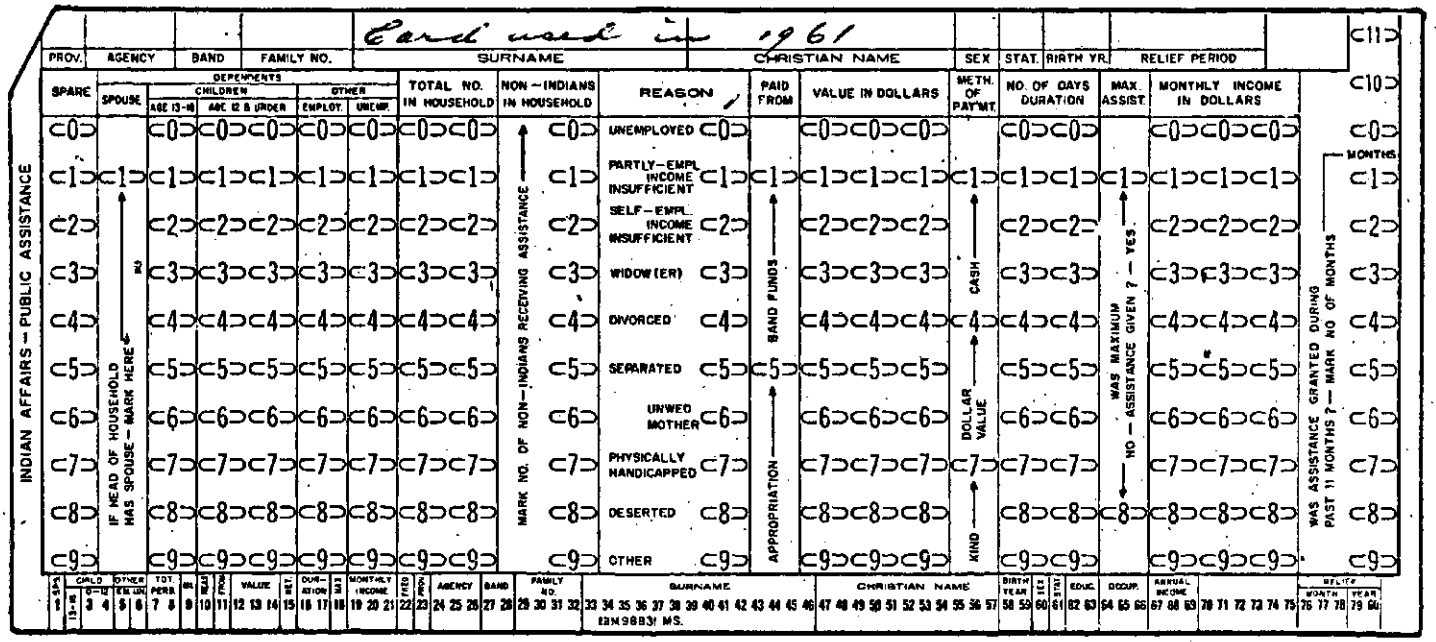
Frequency by months (m)

Survey		12	11	10	9	8	7	6&5	4&3	2	1	N.S.	Total F	Total Fm
No.1	F	4							5	1			10	
Feb. 1961	Fm	48							15	2				65
No.2	F	8											8	
Aug. 1961	Fm	96												96
No.3	F	7		1									8	
Feb. 1962	Fm	84		10										94
No.4	F	2											2	
Aug. 1962	Fm	24												24
No.5	F	5		3	2								10	
Feb. 1963	Fm	60		30	18									108
Total														387

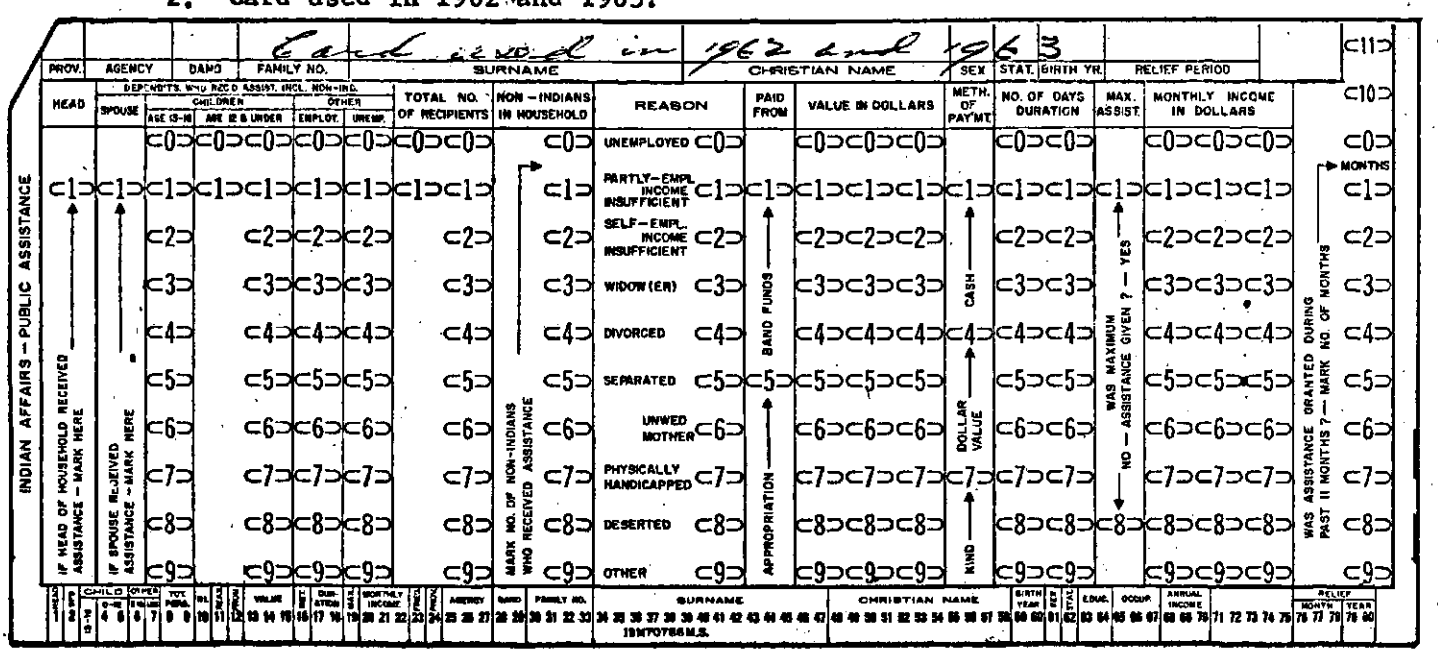
APPENDIX I.D

Sample IBM cards used in Surveys of Public Assistance.

1. Card used in 1961:



2. Card used in 1962 and 1963:



APPENDIX I.E

TABLE LIV

ANNUAL SUMMARY OF WELFARE EXPENDITURE, TOTAL AND PER CAPITA, FOR INDIANS OF SASKATCHEWAN; ALSO NUMBER OF ACRES CULTIVATED AND TOTAL INCOME, SELECTED YEARS[d]

Year	Acres cultivated	Income of Indians ($)	Welfare[a] ($) expenditure	Population[b] of Indians	Welfare exp.[c] per capita ($)
1929	46,174	$1,225,577	$208,359	10,784	$19.72
1937	38,585	683,796	82,298	11,878	6.94
1938	32,744	602,468	139,309	(12,449)	11.18
1939	42,059	634,559	109,934	13,020	8.43
1940	45,811	714,669	102,713	(13,210)	7.78
1941	49,193	652,751	94,647	(13,400)	7.07
1942	46,723		80,173	(13,590)	5.90
1943	46,783		60,940	(13,780)	4.42
1944	45,628	1,315,336	62,108	(13,970)	4.45
1945	46,965	2,141,536	67,373	14,158	4.76
1946	52,580	1,761,981	87,816	(14,695)	5.98
1947	60,186		121,711	(15,233)	7.98
1948	70,066		132,163	(15,770)	8.39
1949	74,411		214,198	16,308	13.15
1950	89,611	1,220,000+	310,520		
1951	116,868		357,605		
1952	136,894	1,576,000+	356,636		
1953	150,518	3,000,000+	209,819		
1954	170,079	2,850,000+	169,902*	18,750	9.01
1955	177,937	1,122,000+	244,661	(19,672)	12.44
1956	166,561	3,896,000+	361,935	(20,594)	17.58
1957			489,577	(21,516)	22.76
1958			588,081	22,438	26.20
1959			1,087,413	23,280	46.50
1960			1,667,537	24,278	68.70
1961			1,794,701	25,334	70.80
1962			2,387,453	(26,350)	90.60

[a] 1954 figure includes grant of $1000 to exhibition.

[b] Figures in brackets are interpolated.

[c] Slide-rule accuracy only.

[d] Source: Canada, Indian Affairs Branch, Annual Report, 1937-1962.

APPENDIX I.F

TABLE IV

SOCIAL WELFARE (EXPENDITURE) FOR RURAL MUNICIPALITIES AND LOCAL IMPROVEMENT DISTRICTS OF SASKATCHEWAN, PER CAPITA, FOR THE YEAR 1961

	R.M.'s	L.I.D.'s	Total
Total social welfare expenditures, 1961[a]	$1,307,146	231,480	$1,538,626
Total population[b] (1961 Census)	348,957	17,049	366,006
Social welfare expenditures per capita, 1961	$3.74	$13.58	$4.20

[a]Source: Saskatchewan, Department of Municipal Affairs, Annual Report, 1961-62, Schedule No. 13.

[b]From the same source, Schedule No. 1.

APPENDIX II

POPULATION

APPENDIX II.A

TABLE LVI

POPULATION OF FOUR INDIAN BANDS IN SASKATCHEWAN, 1900-1962 (INDIAN AFFAIRS BRANCH)[a]

Note: For age distribution of Indian band population, see Appendix II.E,F.

Date	Round Plain[b]	Moose Woods	Standing Buffalo	Wood Mountain
1900	103	50	172	127
1910	82	50	186	121
1916	60	69[c]	184	124
1919	(d)	(d)	(d)	(d)
1924	50	59	171	40
1929	45	66	166	42
1934	42	75	195	45
1939	51	80	203	44
1944	55	73	197	38
1949	56	81	258	38
1954	63	90	302	45
1959	76	106	369	48
1962	81	116	396	50

[a] Sources: (i) for 1900 to 1916; Canada, Department of Indian Affairs, Annual Report, 1900; 1910; 1916 (or see: Parliament of Canada, Sessional Papers, 1901; 1911; 1917); (ii) for 1924 to 1934, see: Canada, Department of Indian Affairs, Census of Indians and Eskimos, 1929; Census of Indians in Canada, 1929; 1934; (iii) for 1939 to 1944, see: Canada, Department of Mines and Resources, Census of Indians in Canada, 1939; 1944; (iv) for 1949 to 1959, see: Canada, Department of Citizenship and Immigration, Census of Indians in Canada, 1949; 1954; 1959; (v) for 1962, see: Canada, Department of Citizenship and Immigration, Indian Affairs Branch, Traditional Linguistic and Cultural Affiliations of Canadian Indian Bands (Ottawa: 1963).

[b] Designated as Wahpaton Sioux.

[c] Total appears as 60 in source; discrepancy in data, sub-totals.

[d] Not available.

APPENDIX II.B

TABLE LVII

POPULATION OF FOUR INDIAN RESERVES IN SASKATCHEWAN, 1901-1961 (DOMINION BUREAU OF STATISTICS)[a]

Date	Round Plain[b]	Moose Woods[c]	Standing Buffalo	Wood Mountain
1901	178	50	217	(d)
1906	111	(d)	183	(d)
1911	93	62	(d)	(d)
1916	30	68	191	(d)
1921	35	63	158	38
1926	59	69	153	38
1931	42	76	156	37
1936	50	82	(d)	48
1941	47	82	139	37
1946	41	73	134	42
1951	57	88	262	41
1956	75	94	291	40
1961	93	116	352	30

[a] Sources (see footnote 62, p.20, Chapter Two): (i) for Round Plain and Standing Buffalo: letter dated November 15, 1962; (ii) For Moose Woods and Wood Mountain: letter dated May 14, 1963.

[b] Designated as "Wahpaton Sioux" Indian Reserve No. 94A.

[c] Designated also as "Whitecap Sioux" Indian Reserve No. 94. Standing Buffalo and Wood Mountain are numbered 78 and 160, respectively.

APPENDIX II.C

1961 Census Data for Selected Enumeration Areas

Note: see footnote 65, p. 20, Chapter Two.

Source: Personal Correspondence of the writer, letter from J. L. Forsyth, Assistant Director, Census Division, Dominion Bureau of Statistics, October 30, 1963, enclosing Appendix 1 and 2.

Appendix II.C.1, (4 pp.), represents Appendix 2 in full.

Appendix II.C.2 is a summary of selected data in Appendix II.C.1.

The above letter includes the following statement:

"I shall point out that the E.A. No. 706/124 in which the Standing Buffalo Reserve No. 78 is located includes 40 persons who were not living on this reserve but we cannot provide you with a classification of these 40 persons by age, marital status, etc."

APPENDIX II.C.1 (4pp.)

1961 CENSUS DATA

FOR Enumeration Area 709-128 — 160

Simp Walpaton #99A, 99B Reserve

Age Groups By Sex

	Total	Male	Female
All Ages	93	38	55
0-4	10	4	6
5-9	20	13	7
10-14	27	1	26
15-19	6	5	1
20-24	4	3	1
25-34 (10 yr periods)	7	6	1
35-44	3	1	2
45-54	5	2	3
55-64	9	2	7
65-69	1	1	-
70+	1	-	1

Marital Status

Total	93
Single	76
Under 15 years	57
15 years and over	19
Married	15
Widowed	2
Divorced	-

Ethnic Groups

Total	93
British Isles	1
French	-
German	-
Italian	-
Jewish	-
Netherlands	-
Polish	-
Russian	-
Scandinavian	-
Ukrainian	5
Other European	-
Asiatic	-
Native Indian & Eskimo	87
Other and Not Stated	-

Religious Denomination

Total	93
Anglican Church of Canada	24
Baptist	-
Greek Orthodox	-
Jewish	-
Lutheran	-
Mennonite	-
Pentecostal	-
Presbyterian	45
Roman Catholic	14
Ukrainian (Greek) Catholic	5
United Church of Canada	3
All Other	2

Highest Grade Attended for the Population 5 years and over

	Attending School	Not Attending
Total	43	40
No schooling	-	9
Pre Grade 1	-	-
Elementary 1-4	18	16
Elementary 5+	24	13
High School 1 & 2	-	1
High School 3 & 4	1	1
High School 5	-	-
University 1 & 2	-	-
University 3 & 4	-	-
University Degree	-	-

Official Language

Total	93
English Only	92
French Only	-
Both English & French	-
Neither English nor French	1

Mother Tongue

Total	93
English	-
French	-
All Other	93

Birth Place

Total	93
Born in Canada	88
Born Outside of Canada	5
Immigrated before 1946	5
Immigrated 1946 - 1961	-

Farm and Non-Farm Residence

Total	93
On Farm	19
Not On Farm	74

DBS Oct 30/67

1961 CENSUS DATA

FOR Enumeration Area 713-149

Moose Woods #94 Reserve

Age Groups By Sex

	Total	Male	Female
All Ages	116	46	70
0-4	18	6	12
5-9	14	2	12
10-14	20	9	11
15-19	10	5	5
20-24	9	5	4
25-34	9	4	5
35-44 (10 yr. periods)	12	5	7
45-54	8	5	3
55-64	9	2	7
65-69	2	-	2
70+	5	3	2

Marital Status

Total	116
Single	82
Under 15 years	52
15 years and over	30
Married	25
Widowed	9
Divorced	-

Ethnic Groups

Total	116
British Isles	-
French	-
German	-
Italian	5
Jewish	-
Netherlands	-
Polish	-
Russian	-
Scandinavian	-
Ukrainian	-
Other European	-
Asiatic	-
Native Indian & Eskimo	111
Other and Not Stated	-

Religious Denomination

Total	116
Anglican Church of Canada	-
Baptist	-
Greek Orthodox	-
Jewish	-
Lutheran	-
Mennonite	-
Pentecostal	-
Presbyterian	-
Roman Catholic	5
Ukrainian (Greek) Catholic	-
United Church of Canada	111
All Other	-

Highest Grade Attended for the Population 5 years and over

	Attending School	Not Attending
Total	33	65
No schooling	-	5
Pre Grade 1	-	-
Elementary 1-4	18	10
Elementary 5+	14	49
High School 1 & 2	-	-
High School 3 & 4	1	1
High School 5	-	-
University 1 & 2	-	-
University 3 & 4	-	-
University Degree	-	-

Official Language

Total	116
English Only	116
French Only	-
Both English & French	-
Neither English nor French	-

Mother Tongue

Total	116
English	8
French	-
All Other	108

Birth Place

Total	116
Born in Canada	111
Born Outside of Canada	5
Immigrated before 1946	5
Immigrated 1946 - 1961	-

Farm and Non-Farm Residence

Total	116
On Farm	105
Not On Farm	11

1961 CENSUB DATA

FOR Enumeration Area 706 - 124
Standing Buffalo #1 IR Reserve

incl. 40 persons who were not living on this reserve, but claimed permanent residence on age, mar. status, etc.

Age Groups By Sex

	Total	Male	Female
All Ages	392	194	198
0-4	78	37	41
5-9	56	24	32
10-14	61	28	33
15-19	31	13	18
20-24	21	14	7
25-34 - 11 M	51	26	25
35-44 - 10 F	37	19	18
45-54 - 10 F	24	15	9
55-64 - 10 M	11	8	3
65-69	11	5	6
70+	11	5	6

Marital Status

Total	392
Single	273
Under 15 years	195
15 years and over	78
Married	104
Widowed	14
Divorced	1

Ethnic Groups

Total	392
British Isles	1
French	1
German	2
Italian	-
Jewish	-
Netherlands	-
Polish	-
Russian	-
Scandinavian	-
Ukrainian	-
Other European	1
Asiatic	-
Native Indian & Eskimo	384
Other and Not Stated	-

Religious Denomination

Total	392
Anglican Church of Canada	-
Baptist	-
Greek Orthodox	-
Jewish	-
Lutheran	-
Mennonite	-
Pentecostal	1
Presbyterian	1
Roman Catholic	366
Ukrainian (Greek) Catholic	-
United Church of Canada	15
All Other	9

Highest Grade Attended for the Population 5 years and over

	Attending School	Not Attending
Total	104	210
No schooling	-	32
Pre Grade 1	1	-
Elementary 1-4	51	26
Elementary 5+	48	135
High School 1 & 2	4	13
High School 3 & 4	-	2
High School 5	-	2
University 1 & 2	-	-
University 3 & 4	-	-
University Degree	-	-

Official Language

Total	392
English Only	356
French Only	-
Both English & French	-
Neither English nor French	36

Mother Tongue

Total	392
English	6
French	-
All Other	384

Birth Place

Total	392
Born in Canada	392
Born Outside of Canada	-
Immigrated before 1946	-
Immigrated 1946 - 1961	-

Farm and Non-Farm Residence

Total	392
On Farm	53
Not On Farm	339

DBS
Oct 30/62

1961 CENSUS DATA

FOR Enumeration Area 715 - 172

Wood Mountain # 161 Reserve

Age Groups By Sex

	Total	Male	Female
All Ages	30	16	14
0-4	3	2	1
5-9	1	1	-
10-14	2	-	2
15-19	4	-	4
20-24	7	4	3
25-34	1	1	-
35-44	1	1	-
45-54	2	1	1
55-64	7	4	3
65-69	1	1	-
70+	1	1	-

(groups)

Marital Status

Total	30
Single	16
Under 15 years	6
15 years and over	10
Married	13
Widowed	1
Divorced	-

Ethnic Groups

Total	30
British Isles	1
French	-
German	-
Italian	-
Jewish	-
Netherlands	-
Polish	-
Russian	-
Scandinavian	-
Ukrainian	-
Other European	-
Asiatic	-
Native Indian & Eskimo	29
Other and Not Stated	-

Religious Denomination

Total	30
Anglican Church of Canada	-
Baptist	-
Greek Orthodox	-
Jewish	-
Lutheran	-
Mennonite	-
Pentecostal	-
Presbyterian	-
Roman Catholic	21
Ukrainian (Greek) Catholic	-
United Church of Canada	6
All Other	3

Highest Grade Attended for the Population 5 years and over

	Attending School	Not Attending
Total	-	27
No schooling	-	5
Pre Grade 1	-	-
Elementary 1-4	-	6
Elementary 5+	-	10
High School 1 & 2	-	3
High School 3 & 4	-	3
High School 5	-	-
University 1 & 2	-	-
University 3 & 4	-	-
University Degree	-	-

Official Language

Total	30
English Only	29
French Only	-
Both English & French	1
Neither English nor French	1

Mother Tongue

Total	30
English	14
French	1
All Other	15

Birth Place

Total	30
Born in Canada	29
Born Outside of Canada	1
Immigrated before 1946	1
Immigrated 1946 - 1961	-

Farm and Non-Farm Residence

Total	30
On Farm	22
Not On Farm	8

APPENDIX II.C.2

TABLE LVIII

AGE-SEX DISTRIBUTION OF POPULATION OF FOUR SELECTED ENUMERATION AREAS, (CANADA CENSUS, 1961)

Age group	Enumeration Area											
	Round Plain			Moose Woods			Standing Buffalo			Wood Mountain		
	M	F	T	M	F	T	M	F	T	M	F	T
65 and over	1	1	2	3	4	7	10	12	22	2	–	2
20 to 64	14	14	28	21	26	47	82	62	144	11	7	18
15 to 19	5	1	6	5	5	10	13	18	31	–	4	4
0 to 14	18	39	57	17	35	52	89	106	195	3	3	6
Total	39	55	93	46	70	116	194	198	392	16	14	30

APPENDIX II.D.

TABLE LIX

AGE-SEX DISTRIBUTION OF RESIDENT POPULATION OF FOUR INDIAN RESERVE COMMUNITIES IN SASKATCHEWAN, 1962-63 (FIELD STUDY)

Age range	Community: Round Plain		Moose Woods		Standing Buffalo[a]		Wood Mountain		Total	
	M	F	M	F	M	F	M	F	M	F
85-89	1	-	-	1	1	1			2	2
80-84	-	-	-	-	-	1			-	1
75-79	-	2	-	-	1	1			1	3
70-74	1	-	1	-	3	3	1	-	6	3
65-69	-	-	-	3	7	6	1	1	8	10
60-64	2	-	1	-	1	3	3	1	7	4
55-59	1	3	2	-	4	1	1	1	8	5
50-54	-	1	3	4	8	3	1	1	12	6
45-49	-	1	2	2	6	5	-	-	8	8
40-44	1	-	2	6	12	10	-	-	15	16
35-39	2	2	2	1	8	8	1	1	13	12
30-34	2	2	1	2	12	8	1	-	16	12
25-29	2	1	3	2	11	12	1	-	17	15
20-24	3	3	7	5	14	7	4	3	28	18
15-19	2	4	3	9	15	26	1	1	21	40
10-14	2	7	13	8	23	26	-	1	38	42
5-9	9	9	4	9	19	35	1	1	33	54
0-4	7	7	8	10	34	24	5	-	54	41
Total	35	42	52	59	179	180	21	11	287	292
65+	2	2	1	4	12	12	2	1	17	19
20-64	13	13	23	19	76	57	12	7	124	96
0-19	20	27	28	36	91	111	7	3	146	177
Total	35	42	52	59	179	180	21	11	287	292
Gr.total	77		111		359		32		579	

[a] Data is "blown up" from a sample of 45/61 households.

APPENDIX II.E, II.F

The figure $\begin{vmatrix} a \\ b \\ c \end{vmatrix}$ represents the age distribution of a given population,

where a is the per cent of the population aged 65 and over,
" b " " " " " " " " " 20 to 64,
" c " " " " " " " " " 0 to 19.

Saskatchewan (Dominion Bureau of Statistics data)[a]

1911	1921	1931	1941	1951	1961
	2	3+	5	8	9
	50	50+	54	53	49
	48	46+	41	39	42

Saskatchewan Indians (Indian Affairs Branch data, by interpolation)

1934	1939	1944	1949	1954	1959
6	5	5	3	4	4
43	41+	41+	44	41	37
51	52+	53+	53	55	59

Saskatchewan Dakota Indians (field study data, 1962-63)

RP	MW	SB	WM
5+	5	6	9
34	38	37	60
61	57	57	31

FIGURE 5

AGE DISTRIBUTION OF SELECTED POPULATIONS IN SASKATCHEWAN

[a] Source : Canada, Dominion Bureau of Statistics, Census of Canada, 1921, 1931, 1941, 1951, 1961.

APPENDIX II.G

TABLE LX

INDIAN BANDS WITHIN THIRTY MILES OF CENTER OF SELECTED COMMUNITIES, 1962, BY COMMUNITY

COMMUNITY

Round Plain		Moose Woods		Standing Buffalo		Wood Mountain	
Reserve	Pop.	Reserve	Pop.	Reserve	Pop.	Reserve	Pop.
Wahpaton Sioux	81	Moose Woods	116	Standing Buffalo	396	Wood Mountain Sioux	50
Sturgeon Lake	475			Pasqua	377		
John Smith	307			Muscowpetung	303		
				Piapot	447		
				Peepeekeesis	552		
				Okanese	141		
				Star Blanket	127		
				Little Black Bear	113		
Total	863	Total	116	Total	2456	Total	50

APPENDIX III

TABLE LXI

LAND AREAS OF FOUR DAKOTA (SIOUX) INDIAN RESERVES IN SASKATCHEWAN, 1881 TO 1964.

	Indian Reserve			
	Sioux-Wahpaton I.R. 94 A,B	Moose Woods I.R. 94	Standing Buffalo I.R. 78	Wood Mountain I.R. 160
In area under Treaty[a]	No. 6	No. 6	No. 4	No. 4
Location	Tp. 49, R.27, W.2	Tps. 33 & 34 R.5-6, W.3	Tps. 21 & 22 R.14, W.2	Tp. 4, R.4, W.3
Initial area		est. 1.8 sq. mi. (1881)[c]	7.6 sq. mi. (1881)[d]	
Initial area[e]	2,330 ac. (1894)	1,472 ac. (1889)	4,864 ac. (1889)	10,240 ac. (1913)
Area: about 1913[f]	2,330 ac.	3,712 ac.	5,415 ac.	10,240 ac.
Area: 1928[g]	3,755 ac.	4,007 ac.	5,737 ac.	5,280 ac.
Area: 1964[h]	3,594 ac. (or 5.6 sq. mi.)	4,009 ac. (or 6.3 sq. mi.)	5,655 ac. (or 8.8 sq. mi.)	5,920 ac. (or 9.2 sq. mi.)

[a] See: F. W. Hodge, Handbook of Indians of Canada (Ottawa: 1913), published as an Appendix to the tenth Report of the Geographic Board of Canada, in Sessional Papers, 1912, No. 21a. (Canada, Parliament).

[b] See the same source.

[c] See: Miscellaneous Documents, "Descriptions and Plans of Certain Indian Reserves in Manitoba and in the Northwest Territories, 1889", (Saskatchewan Archives, University of Saskatchewan, Saskatoon, Sask.), p. 73. The estimate of 1.8 square miles was made by this writer from examination of a map shown in the document, drawn by J. C. Nelson, D.L.S., who surveyed the reserve in 1889, enlarging it to cover 2.3 square miles. Nelson reports the number of families in the band, led by Chief White Cap, as 22. The 1881 reserve boundary lines were run by Mr. Simpson, D.L.S.

[d] See the same source, p. 44. J. C. Nelson, D.L.S., who surveyed the reserve in 1881, reports fifty families in the band, led by Chief Standing Buffalo.

(Footnotes continued on next page).

[e] Canada, Department of Indian Affairs, Schedule of Indian Reserves in the Dominion of Canada (Ottawa: 1928), Schedule 2. Areas given are those listed under "Original Area". The years given are those when the reserves were confirmed by Order-in-Council, except for Wood Mountain. For Wood Mountain the year is when the reserve was granted. It was not confirmed until 1930, according to Gontran Laviolette, The Sioux Indians in Canada (Regina, Sask.: The Marian Press, 1944), p. 123.

[f] See: Hodge, op. cit., p. 520-22.

[g] See: Canada, Department of Indian Affairs, 1928, op. cit., Schedule 2.

[h] See: Personal Correspondence of the writer, Letter from J. G. McGilp, Regional Supervisor of Indian Agencies, Saskatchewan, Indian Affairs Branch, 216 Federal Building, Saskatoon, Sask., March 26, 1964.

APPENDIX IV

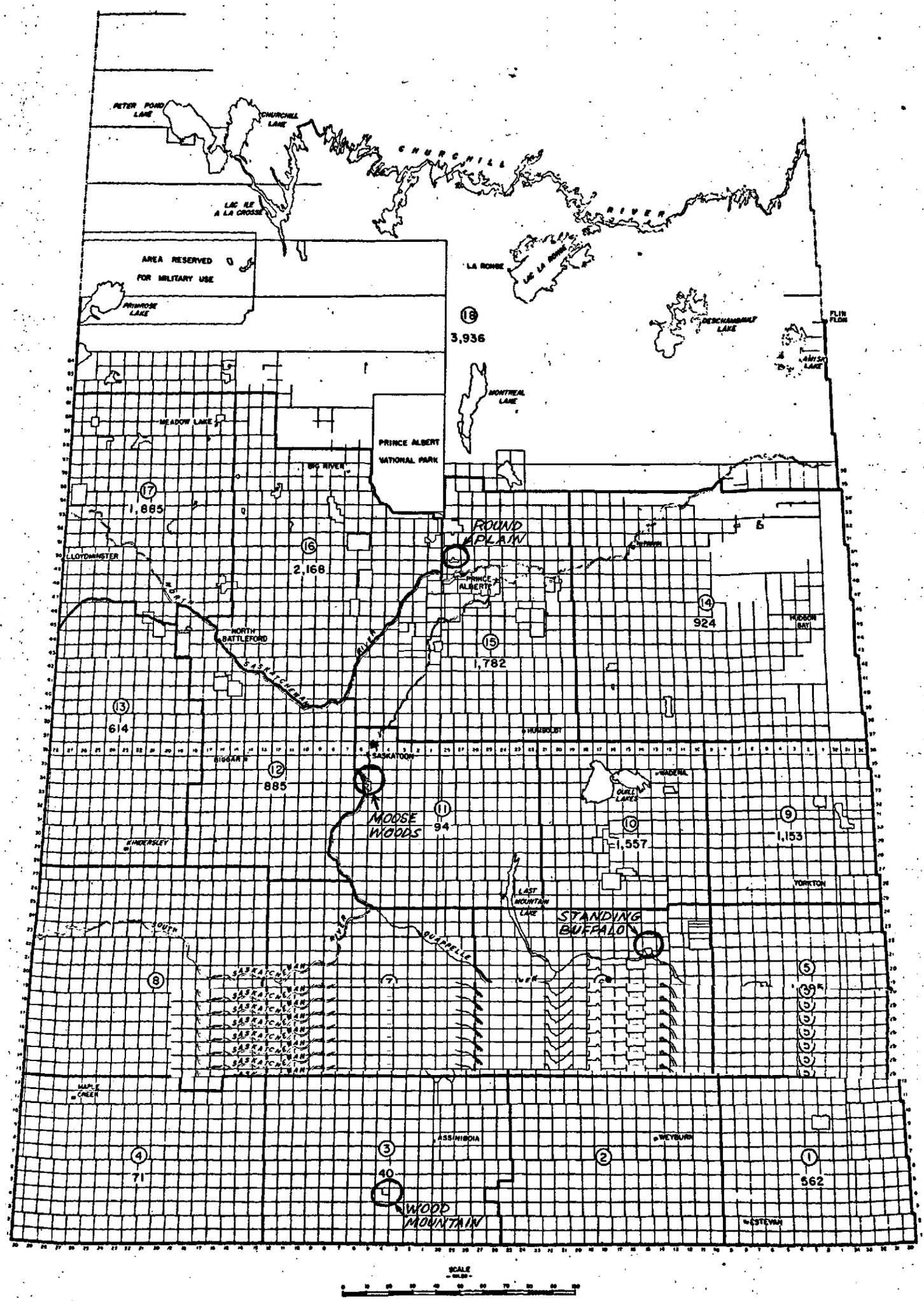
MAPS

Appendix IV.A: Distribution of Indian Population by Census Division, Saskatchewan, 1956

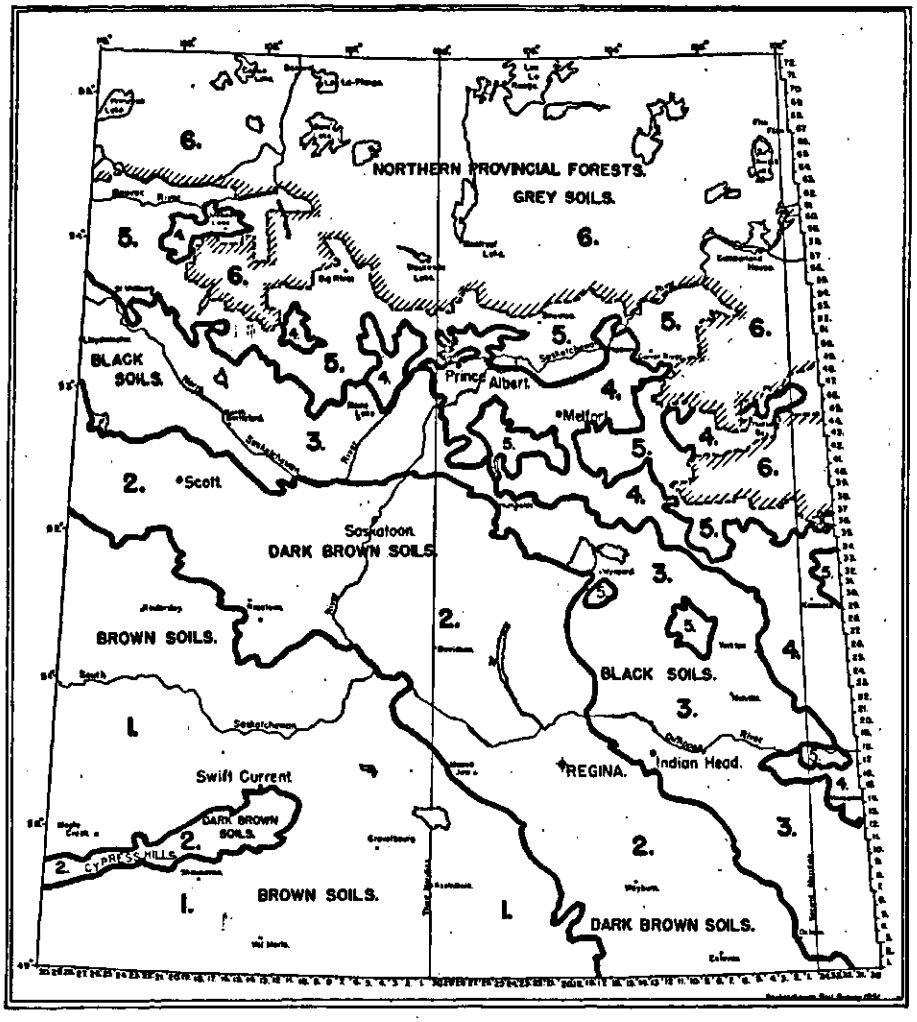
Appendix IV.B: The Soil Zones of Saskatchewan

Appendix IV.C: Four Dakota (Sioux) Indian Reserve Communities in Saskatchewan.

DISTRIBUTION OF INDIAN POPULATION
BY CENSUS DIVISION
SASKATCHEWAN, 1956



THE SOIL ZONES OF SASKATCHEWAN



LEGEND

1. Brown Soils of the open prairie, the most arid section of the province. Wide variations in crop yields and frequent severe droughts.
2. Dark Brown Soils of the prairie, less arid than the Brown Soils. Variable crop yields but less frequent severe droughts.
3. Black Soils of the parkland. Better moisture conditions and better average yields than on the prairie. Severe droughts rarely experienced.
4. Deep Black and Greyish Black Soils of the parkland-forest belt. Good moisture conditions and high crop yields.
5. Grey Wooded Soils of the forest region. Moisture conditions good, but soils are low in organic matter and general fertility.
6. Grey Soils and Muskeg of the unsettled Northern Provincial Forest.

- - - - Boundary of Northern Provincial Forest Reserves.

FIGURE 7

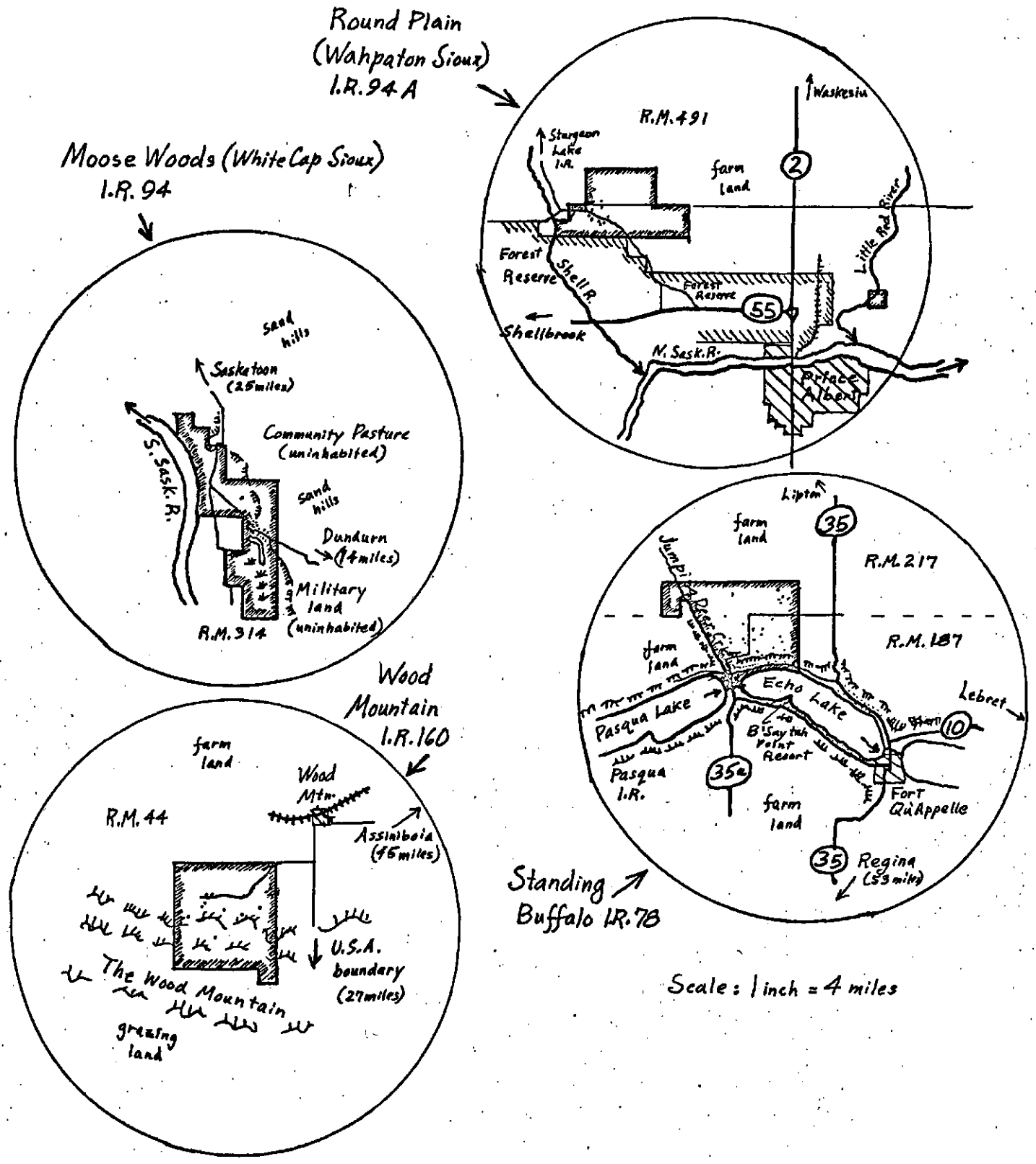


FIGURE 8

FOUR DAKOTA (SIOUX) INDIAN RESERVE COMMUNITIES IN SASKATCHEWAN

FOI
FOI
FOI
FOI

APPENDIX V

ESTIMATION OF LAND VALUES FOR FOUR DAKOTA (SIOUX) INDIAN RESERVES IN SASKATCHEWAN

In the "hypothetical land assessment" carried out to obtain an estimate of land value (for agricultural purposes) of the four Dakota Indian Reserve Communities in Saskatchewan, the procedure was as follows. First, the writer used the Saskatchewan Soil Survey Reports with maps (cited in footnote 72, in Chapter Two) to find the soil type of the lands adjacent to each Indian Reserve. Second, aerial photographs were used to extend the boundaries between soil types across the Indian Reserve land. (Low altitude photos, flown between 1940 and 1950, were borrowed from the Economics Division, Canada Agriculture Research Station, Saskatoon; high altitude photos, flown between 1950 and 1960, were rented from the Surveys Branch, Saskatchewan Department of Natural Resources, Regina). Mr. J. S. Clayton, co-writer of the Saskatchewan Soil Survey Reports No. 12 and 13 gave valuable assistance in this regard.

Then the photostats of the field sheets used in the Saskatchewan Rural Land Assessment were used to determine the assessment of agricultural land adjacent to each Indian Reserve. (These sheets were viewed in the library of the Department of Farm Management, University of Saskatchewan, Saskatoon). Assessments for each quarter-section were shown on a map. Then by interpolation, the land assessment for each quarter-section of each Indian Reserve was estimated and shown on the map. The sum of these figures is the total "hypothetical" or estimated land assessment of the Indian Reserve used in Table XVIII, in Chapter Three.

APPENDIX VI

AGRICULTURAL DATA

APPENDIX VI.A

TABLE LXII

LAND USE DATA FOR FOUR DAKOTA (SIOUX) INDIAN RESERVES IN SASKATCHEWAN, 1951, 1956, AND 1961

	Community											
	Round Plain			Moose Woods			Standing Buffalo			Wood Mountain		
	1951	1956	1961	1951[a]	1956[a]	1961	1951	1956	1961	1961	1956[a]	1961
Number of farms	3	5	4			20	12	6	8	7		8
Total acreage	458	202	300			832	1,640	1,555	1,795	1,120		1,920
Total improved	365	202	306			276	1,018	1,556	1,585	1,045		894
Cropland	255	137	147			133	680	800	790	348		455
Pasture	40	–	–			49	–	–	10	607		–
Summerfallow	55	65	141			72	356	755	725	51		424
Other improved	15	–	12			22	12	–	60	39		15
Total unimproved	83	–	–			556	592	–	210	75		1,026
Woodland	41	–	–			58	149	–	95	70		–
Other unimproved	42	–	–			498	443	–	115	5		1,026

[a] Only one questionnaire completed so data cannot be released

APPENDIX VI.B

TABLE LXIII

SUMMARY DATA FOR CANADA CENSUS OF AGRICULTURE, 1961, FOR FOUR DAKOTA (SIOUX) INDIAN RESERVES IN SASKATCHEWAN

	Community			
	Round Plain	Moose Woods	Standing Buffalo	Wood Mountain
1. Number of farms	4	20	8	8
2. Total area of all land operated	300 ac.	832 ac.	1795 ac.	1920 ac.
3. Field crops (sown or to be sown for harv. 1961)				
spring wheat	20 ac.	30 ac.	680 ac.	382 ac.
oats for grain	47	93	80	—
barley	80	—	30	—
oats for green feed	—	10	—	73
potatoes (for home use or sale)	—	1	1½	1
4. Estimate of present market value of land and buildings	$11,200	19,700	56,150	28,800
5. Total value of all machinery and equipment	4,705	6,500	15,000	4,300
6. Total value: land, buildings, machinery, equipm't.[a]	15,905	26,200	71,150	33,100
7. Total cattle and calves	—	86	—	50
8. Total horses and ponies	3	48	8	16
9. Total hens and chickens	—	—	26	132
10. Total whole milk produced, May 1961 (home use)	—	3,400 lb.	—	—
11. Value of agricultural products sold in last 12 months (landlord's share):				
Wheat	450	530	7,900	2,940
Other cash grains	193	860	755	—
Oilseeds	802	—	—	—
Hay and fodder crops	90	5,250	—	—
Potatoes, roots, etc.	—	110	—	—
Other receipts (PFAA, etc.) in last 12 mo.	160	—	225	840
Cattle sold (a) calves under 1 year	—	1,000	—	1,030
(b) other cattle 1 year & over	—	2,890	—	—
Horses	100	340	110	—
Hens and chickens	13	—	—	—
Total value[a]	1,808	10,980	8,990	4,054
12. Annual return on investment[a,c]	16.1%	55.7%	16.0%	14.1%
13. Per capita agricultural income[a,b] (1961)	$ 20	$ 95	$ 26	$ 135

[a] Column does not appear in D.B.S. data.

[b] D.B.S. Census, 1961: populations respectively 93, 116, 352, 30.

[c] Percent is Value 11 ÷ Value 6, ×100.

APPENDIX VI.C

TABLE LXIV

LAND LEASED AND REVENUE THERE-FROM, FOR FOUR DAKOTA (SIOUX) INDIAN RESERVES IN SASKATCHEWAN, 1963

	Community			
	Round Plain	Moose Woods	Standing Buffalo	Wood Mountain
Area of Reserve	3,594ac.	4,009ac.	5,656ac.	5,920ac.
Area leased to non-Indians, 1963	1,960ac.	Nil	682ac.	105ac.
Revenue from leased land	$5,300.00	Nil	$5,469.20	$3,975.00
Area leased to Band	Nil	Nil	Nil	Nil

[a] Source: letter from J.G. McGilp, Indian Affairs Branch, dated March 26, 1964.

APPENDIX VII

HOUSEHOLD INTERVIEW SCHEDULE AND SUMMARY OF RESULTS

Appendix VII.A: The Household Questionnaire Form

Appendix VII.B: Summary tabulations of results

1. General: see Appendix II.D.
2. Level of Living: see Appendix VIII.B.
3. Social Participation (untabulated).
4. Family History (untabulated).
5. Occupation and Income:
   a. Man-days of sustenance activities.
   b. Income: sources and amounts (total).
   c. Income: per household and per capita.

Note: the dates the field studies were conducted, and the twelve-month period in 1962-63 each field study covers, are as follows:

Round Plain: study June 27, 1963 and March 17, 1964, covering 1963;

Moose Woods: study June 27, 1963, covering 1962;

Standing Buffalo: study March 7-16, 1963, covering 1962;

Wood Mountain: study June 1-3, 1963, covering 1962.

APPENDIX VII.A (2 pp.) IE/81

Questionnaire Form

Household No. _____

Reserve _____

Date _____

I. General

1. Name of head of household _____ 2. Address _____

3. Household Composition (all persons normally resident in this dwelling) _____

Name of household member and relationship to head	Sex	Age	Place of Birth	Religion / Band Status	Years of School	Other Training	Marital Status	Languages Spoken (underline one spoken at home). Eng.	Dak.	Other
Head A										
Wife B										
Child 1										
2										
3										
4										
5										
6										
7										
Other C										
D										
E										
F										

II. Level of Living

1. House construction (a) Type: painted frame ____, unpainted frame ____, log ____, or mud ____. (b) Condition: needs major repair ____; Has floor covering ____ ( ) (Score:)

2. Room-person ratio. (a) No. of rooms ____ (b) No. of persons ____ - ____ (Score:).

3. Lighting: electric ____ ( ), pressure lamp ____ ( ), wick lamp or other ____ ( )

4. Refrigeration: mechanical ____ ( ), ice ____ ( ), other or none ____ ( ).

5. Heating: wood heater ____ ( ), range ____ ( ), oil stove ____ ( ) furnace ____ ( )

6. Water supply: piped ____ ( ), well within 100 yd. ____ ( ), spring ____ ( ) other ____ ( )

7. Power washer ____ ( )

8. Radio_____( ); Telephone _____( )

1. Daily newspaper subsc._____( ); weekly or magazine _____( )
2. Life insurance for head of household_____( ); bank acc't _____( )
3. Car, truck, tractor (make, year, model)(Score:)
4. Team of horses _____( ); milk cow _____( ); pigs_____( ); chickens _____( ); garden _____( ). (Score:)

III. Social Participation

1a. Communities visited most often reserve, (town, usual_____dist____freq.___etc.)
other_____dist____freq.___
other_____dist____freq.___

b. No. visited per month____, per yr.____

c. Usual travel means:_____

2a. Families visited most often (show by E or C if eating or drinking occurred)
1._____dist_____freq____
2._____dist_____freq____
3._____dist_____freq____

b. No. of families visited per mo.____ per yr_____ No. exchanged work with _____, equipm't with _____.

3. Organizational Activities for h'hold members 10 yr. age and older. (Score: member: 1, attend. 2, (½ meetings), contribute; 3, office in last 5 years)

	A	B	1	2	3	4	5	6	7	C	D	E	F
'Church													
'Women's org'n													
'Band mtg													
'Sports club													
'Co-op, PTA													
'Youth org'n													
4. Served in armed forces													
5. Voted in last election													

6. Informal group activities for h'hold members 10 yr. old and up. Show no. of events of each type attended last yr. (show by P if participated); sports events , dances , pool , fairs , pow-wows , rodeos , feasts , parties , flowerday , bees , conferences , other .

IV. Family History: band and tribe of origin (complete section I. 3e. amount Dakota origin)

Head of household	Wife
His mother	Her mother
His father	Her father

V. Occupation and Income (1962)

1. For all h'hold members out of school, indicate if: employed in 1962 _____ farming_____, retired_____, disabled_____, couldn't find work _____, didn't wish work_____.

2. H'hold members employed	No. of yr. at latest job	Employer	Type of work	Wage rate	Total amt. earned.

3. Other earnings of h'hold:
farm prod.
wood prod.
garden
game, berries
crafts, other

4. Other sources of income:
Unemp. Ins.
Gov't Fam. All.
Old Age Pension
BPA, DPA, VLA
Gifts, other
Relief

5. Total income for h'hold

APPENDIX VII.B.5.a

TABLE LXV

ESTIMATED NUMBER OF "MAN-DAYS" OF LABOR WORKED IN TWELVE-MONTH PERIOD, 1962-63, BY COMMUNITY

Type of work	Community			
	Round Plain	Moose Woods	Standing Buffalo[a]	Wood Mountain
I. Employment (wage work)				
Farm work:				
-grain & livestock	194	60	510	75
-market garden, etc.	30	440	235	—
Bush work	233	—	—	—
Other unskilled work	-	862	1684	344
Semi-skilled work	156	366	972	
Skilled work		250		
Domestic work	208	77	1810	
Total	821	2055	5211	419
II. Self-employment				
Farming:				
-grain	76	40	523	400
-livestock & hay		510	—	200
Bush				
-wood-cutting	361	3	—	10
-fire-wood	110	150	150	60
-trapping	160	-	—	—
-hunting	20	5	20	30
-fishing	—	—	600	—
-berry-picking	40	5	-	
-Total				
Gardening	70	20	150	20
Crafts	92	20	15	70
Total	929	753	1458	790
III. Total "man-days"	1750	2808	6669	1209

[a] Data for Standing Buffalo is only for the 46 household sample.

APPENDIX VII.B.5.b

TABLE LXVI

SOURCES AND AMOUNTS OF PERSONAL INCOME FOR TWELVE-MONTH PERIOD, 1962-63, BY COMMUNITY

	Community			
	Round Plain	Moose Woods	Standing Buffalo[a]	Wood Mountain
	$			
I. Wage Income				
Wages				
farm: grain, cattle	1470	350	2480	575
: market g'd'n, etc.		3544	1680	
bush, unskilled	1126	11,291	17,981	4575
semi-skilled	1080	3250	7568	
skilled		4200		
domestic	360	320	9967	
Total	4036	22,121	41,074	5160
U.I.C. benefits	—	2132	4358	—
Total	4036	24,253	45,432	5150
II. Other Earned Income				
Farm				
crop	1050	600	6119	2137
P.F.A.A.			544	
stock sold		4500		1934
hay sold		300		
land rented				972
Total	1050	5400	6663	5043

TABLE LXVI (Continued)

	Community			
	Round Plain	Moose Woods	Standing Buffalo	Wood Mountain
II. Other Earned Income (c't'd)				
Bush				
wood	2172	340	80	200
firewood	718	930	1866	244
fur	1048	-	-	-
game	280	60	275	460
fish	-		1035	
wild fruit	115		24	
Total	4333	1330	3279	904
Garden	260	60	54 776	272
Crafts	185	60	40	330
Band relief	600 190	-		
U.S.A. land returns	710			
Foster child care	—		1607	
Insurance, etc.	1800		892 332	
Disabled Vet. Allowance	440		2202	
Total	9568	6850	15,845	6549
I & II Total Earned Income	13,604	31,103	61,277	11,699
III. Other Income				
Family allowance	2202	3450	8804	696
O.A.A. and O.A.P.	2430	3770	11,700	1560
B.P.A. and D.P.A.	790	-	2340	-
Relief food	4494	8505	25,050	4318
Relief clothing	1000	1000		-
Total	10,916	16,725	47,894	6574
IV. Total Income	24,520	47,828	109,171	18,273

[a] Data for Standing Buffalo is only for the 45 household sample.

APPENDIX VII.B.5.c

TABLE LXVII

PERSONAL INCOME FOR TWELVE-MONTH PERIOD, 1962-63, TOTAL, PER HOUSEHOLD, AND PER CAPITA, BY SOURCE AND BY COMMUNITY

	Community			
	Round Plain	Moose Woods	Standing Buffalo[a]	Wood Mountain
No. of households	12	18	46	9
Resident population	77	111	265	32
Total income	$24,520	$47,828	$109,171	$18,273
per household	2,042	2,655	2,428	2,032
per capita	318	431	412	571
Wage income	4,036	24,253	45,432	5,150
per household	336	1,348	1,095	573
per capita	52	219	171	161
Other earned income	9,568	6,850	15,845	6,549
per household	797	380	352	727
per capita	124	62	60	204
Total earned income	13,604	31,103	61,277	11,699
per household	1,134	1,727	1,362	1,300
per capita	177	280	231	366
Relief food public ass.	4,494	8,505	25,050	4,318
per household	374	472	557	480
per capita	58	77	95	135
Other unearned income	6,422	8,220	22,844	2,256
per household	535	457	508	251
per capita	83	74	86	70
Total unearned income	10,916	16,725	47,894	6,574
per household	909	1,508	1,063	731
per capita	142	151	181	205
Total income excluding relief food public ass.	20,026	39,323	84,121	13,955
per household	1,669	2,183	1,870	1,550
per capita	260	354	318	437

[a] Data for Standing Buffalo is for the 45 household sample only.

APPENDIX VIII

SCALE OF LIVING

Appendix VIII.A: Sewell's Scale: Farm Family Socioeconomic Status Scale (Short Form).

Appendix VIII.B: The Writer's Level of Living Scale.

Appendix VIII.C: Summary of Results of Use of Two "Scale of Living" Scales, By Community, 1962-63.

APPENDIX VIII.A.

Sewell's Scale:

FARM FAMILY SOCIOECONOMIC STATUS SCALE (SHORT FORM)

Score	Scale Items
.....	1. Construction of house: Brick, stucco, etc., or painted frame — Score: (5) Unpainted frame or other — (3)
.....	2. Room - person ratio: Number of rooms . . . . ÷ Number of persons . . .= . . . Ratio: Below 1.00 — Score: (3) 1.00-1.99 — (5) 2.00 and up — (7)
.....	3. Lighting facilities Electric — Score: (8) Gas, mantle, or pressure — (6) Oil lamps, other or none — (3)
.....	4. Water piped into house: Y (8) N (4)
.....	5. Power washer? Y (6) N (3)
.....	6. Refrigerator: Mechanical — Score: (8) Ice — (6) Other or none — (3)
.....	7. Radio? Y (6) N (3)
.....	8. Telephone? Y (6) N (3)
.....	9. Automobile? (Other than truck) Y (5) N (2)
.....	10. Family takes daily newspaper? Y (6) N (3)
.....	11. Wife's education: Grades completed: 0-7 8 9-11 12 13 and up Score: (2) (4) (6) (7) (8)
.....	12. Husband's education: Grades completed: 0-7 8 9-11 12 13 and up Score: (3) (5) (6) (7) (8)
.....	13. Husband attends church or Sunday school? (1/4 of meetings) Y (5) N (2)
.....	14. Wife attends church or Sunday school? (1/4 of meetings) Y (5) N (2)
.....	Scale score
.....	
.....	
.....	
.....	
.....	

APPENDIX VIII.B

The Writer's

LEVEL OF LIVING SCALE

1. House
   (a) Construction type:
   painted frame or artificial brick painted unpainted log
   new old one coat frame or other
..... Score: (6) (5) (4) (3) (0)
   (b) Condition: good medium poor
..... Score: (2) (1) (0)
2. Room-person ratio:
   Number of rooms . . . ÷ number of persons . . . = . . .
   Ratio: 2.00 and up 1.00-1.99 .50-.99 below .50
..... Score: (6) (4) (2) (0)
3. Lighting facilities:
   Electric gas, mantle, or pressure wick lamps, other or none
..... Score: (6) (3) (0)
4. Refrigerator:
   Mechanical ice other or none
..... Score: (4) (2) (0)
5. Heating facilities:
   Oil stove, or furnace wood heater and range wood heater or range
..... Score: (3) (1) (0)
6. Water supply:
   Piped into house well within 100 yards spring within 100 yards other
..... Score: (6) (3) (2) (0)
7. (a) Power washer? Yes (5) No (0)
   (b) Indoor toilet? Yes (5) No (0)
.... 8. Radio? Yes (3) No (0)
.... 9. Telephone? Yes (6) No (0)
.... 10. Electricity? Yes (6) No (0)
11. (a) Family takes daily newspaper? Yes (5) No (0)
   (b) Family takes weekly paper or magazines? Two or more one none
..... Score: (4) (3) (0)
12. (a) Family has life insurance? Yes (4) No (0)
..... (b) Family head has bank account? Yes (4) No (0)
13. (a) Family has automobile? 1955 model or later (6)
   earlier than 1955 (3) none (0) two (+2)
   (b) Family has truck? 1955 model or later (6)
   earlier than 1955 (3) none (0) two (+2)
..... (c) Family has tractor? Yes (4) No (0) two (+2)
14. (a) Family has team of horses? Yes (3) No (0) two (+2)
   (b) Family has saddle horses? Yes (2) No (0) two (+1)
.....(c) Family has garden? Yes (3) No (0) Poor (2)

... Scale Score:

APPENDIX VIII.C

TABLE LXVIII

SUMMARY OF RESULTS OF USE OF TWO "SCALE OF LIVING" SCALES, BY COMMUNITY, 1962-63

	Community			
	Round Plain	Moose Woods	Standing Buffalo	Wood Mountain
Sewell Socioeconomic Status Scale (F.F.S.F.)				
- Sum of household scores	541	831	2066	451
- Mean household score	45.1	46.2	45.9	50.1
Level of Living Scale (of writer)				
- Sum of household scores	195	327	674	247
- Mean household score	16.2	18.2	15.0	27.4

APPENDIX VIII.D

TABLE LXIX

SCALE OF LIVING OF SELECTED POPULATIONS OF SASKATCHEWAN, 1961-63, AND MEDIAN EDUCATIONAL LEVEL

	Total Population of Saskatchewan						
	Indian Reserve Resident Population (Sask)						
	Dakota Indian Reserves[a]					Total[c]	Total[d]
	RP	MW	SB[b]	WM	Total		
Number of persons	77	111	359	32	579	21,080	
Number of houses	12	18	61	9	100	3,221	
Number of rooms	28	46	156	28	258	7,492	
Ave. no. of persons per room	2.75	2.41	2.76	1.14	2.24	2.81	.76
Ave. no. of rooms per dwelling	2.3	2.6	2.6	3.1	2.6	2.3	4.9
Ave. no. of persons per dwelling	6.4	6.2	5.9	3.6	5.8	6.5	3.6
Living conveniences (per cent of households possessing item):	%	%	%	%	%	%	%
electricity	—	—	—	—	—	5.6	
telephone	—	—	—	—	—	.3	
mechanical refrigerator	—	—	—	11.1%	1.0%		82.2
passenger auto	8.3	22.2	26.7	66.7	29.0		79.0
Sanitation facilities (percent of households possessing item):							
running water	—	—	—	—	—	.16	
hot and cold running water	—						52.0
bath	—	—	—	—	—	.34	
bath or shower							51.1
indoor toilet	—	—	—	—	—	.34	
flush toilet							48.3
sewer or septic tank	—	—	—	—	—	.19	
Principal fuel (per cent of h'holds)							
oil	—	5.6	6.7	—	5.0		40.2
gas	—	—	—	—	—		33.9
coal or wood	100.0	94.4	93.3	100.0	95.0		25.7
Median years of education							
Nuclear family husbands and wives[a]	Grade 5	Grade 6	Grade 6	Grade 3			
Population 15 and over, 1951[e]							7.8 yr.

[a] Source: field study.
[b] Based on sample of 45/61 households.
[c] Source: Indian Affairs Branch, letter dated Feb. 4, 1964, from R.F. Battle.
[d] Source: Dominion Bureau of Statistics, Census of Canada, 1961, (i) Advance Report No. AH-1, Summary Housing Characteristics; (ii) 2.1 Households and Families — Households by Size, Table 2; (iii) 2.2 Housing — Rooms per Dwelling, Table 30.
[e] Source: Dominion Bureau of Statistics, Census of Canada, 1951, Vol. X, Table XV.

APPENDIX IX

CALCULATION OF $\frac{P_1P_2}{P}$ FACTOR;

ALSO

MUNICIPAL DATA, 1961

APPENDIX IX

TABLE LXX

SELECTED DATA FOR MUNICIPALITIES ADJACENT TO FOUR INDIAN RESERVE COMMUNITIES IN SASKATCHEWAN, 1961-62

Community	Adjacent rural or urban municipality	No. of resident farmers 1961 [a]	Population				Population change 1956-61		$ Per capita [b] assessment	Taxable acreage	
			1956	1961							
			total [a]	rural [a]	urban [a]	total	no.	%		total	per cap.
Round Plain	R.M. 491 (Buckland)	350	2023	1594	302	1896	-127	-6.3	866	148,501	78
	Prince Albert		20,366			24,168	3802	18.7	709		
Moose Woods	R.M. 314 (Dundurn)	350	719	516	140	656	-63	-8.8	1426	117,633	179
	Saskatoon		72,858			95,526	22,668	31.1	1424		
	Dundurn		421			411	-10	-2.4	874		
Standing Buffalo	R.M. 217 (Lipton)	265	1415	1190	21	1211	-204	-14.4	1662	195,363	161
	R.M. 187 (North Qu'Appelle)	243	2041	1171	432	1603	-438	-21.4	1424	121,531	75
	Lipton		412			409	-3	-.7	1172		
	Fort Qu'Appelle		1130			1521	391	34.6	585		
Wood Mountain	R.M. 44 (Waverley)	223	768	570	125	695	-73	-9.5	2428	199,389	286
	Wood Mountain		117			135	18	15.4	849		

a Source: Saskatchewan, Department of Municipal Affairs, Annual Report, 1961-62, schedules no. 25, 26, 27, 28.
b The same source, schedules no. 29, 30, 31, 32.

APPENDIX XI

LEGAL DATA

Note: This section has been omitted from the thesis because of its confidential nature.