

Correspondence

COMMENTARY ON 'PROSPECTS FOR THE NORTH CANADIAN NATIVE ECONOMY'

FREDERICK I. HILL

Department of Indian Affairs and Northern Development,
Ottawa, Ontario, Canada K1A 0H4

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In a recent *Polar Record* article Cox (1985) discusses some fundamental questions about the future of wildlife harvesting by northern Canadians. He maintains that the fish and wildlife resources of the territories could easily meet the protein requirements of their anticipated native population in the year 2001. Furthermore, he argues that, since native northerners derive most of their income in the form of country provisions, strengthening the bush economy is the most promising way of effecting improvements in the economic circumstances of native people.

Unfortunately, however, Cox's presentation of data on country food production, based on Berger (1977) and Fuller and Hubert (1981), was incorrect. According to his Table 1, natives in the Mackenzie Valley and northern Yukon in 1975 produced 274 grams of country food per person per day, but by 1979 natives in the Yukon and Northwest Territories were producing only 110 grams per person per day. He overlooked the fact that Berger's data, on which Cox based his figure for 1975, pertain to the edible weight of country food for human consumption, whereas the Fuller-Hubert data for 1979 refer to the protein content of the harvest. Since the protein content of the mix of species represented in the Fuller-Hubert data (1981: 17) represents only about 27% of the edible weight, the data which he presented for 1975 and 1979 are not comparable at all.

Having presented data for 1975 and 1979 in the same table for purposes of comparison, Cox did not comment on the apparent difference between these two sets of figures. However, the data wrongly suggest that country food production per native declined significantly between 1975 and 1979, or that production per native was much less in the Yukon and Northwest Territories as a whole than in the Mackenzie Valley and northern Yukon. If he had used Fuller and Hubert's data on the weight of the harvest, rather than the protein content, he would have arrived at a more reasonable figure of 409 grams of country food per person per day in 1979, rather than 110 grams. However, because the figures of 274 and 409 grams in 1975 and 1979 respectively apply to different areas and are derived by different assumptions, even this comparison is not really valid.

Secondly, Cox's statement (1985: 396) that the Fuller-Hubert data on country food production refer to the whole of the Yukon and Northwest Territories is incorrect, since they pertain only to the Northwest Territories. He also presented his estimate of 26,000 native people in 1979 as if it applied to both territories. This he obtained by adding 7% to the Fuller-Hubert's estimates (which really are for the Northwest Territories only), to account for the fact that they had excluded the Métis and other unregistered natives. This adjustment was said to be based on the Berger report (Cox 1985: 396). However, nowhere

did Berger suggest that the number of Métis and non-status Indians was 7% of the number of Dene and Inuit in either the Mackenzie Valley or north Yukon, the Yukon and Northwest Territories combined, or the Northwest Territories alone.

Cox could have used 1981 census figures for the native population of the Northwest Territories released by Statistics Canada in February 1983, instead of adjusting the Fuller-Hubert estimates. Ironically, his estimate of 26,000 natives in 1979 may have been a good approximation of their number in the Northwest Territories, though at least 4,000 short of the number in both territories. According to the 1981 census (Boxhill 1985: vii), there were 26,430 native people (status and non-status Indians, Métis and Inuit), excluding inmates of institutions, in the Northwest Territories alone.

Cox also relied on the Fuller-Hubert article for projections of the native population to the year 2001. Fuller and Hubert (1981: 14) had estimated that the Dene and Inuit population of the Northwest Territories in 2001 'would likely be between 42,000 and 52,000, probably closer to the former and possibly marginally smaller than 42,000'. Cox chose to base his calculations on the higher figure (plus 7%), without acknowledging the existence of the lower projection preferred by Fuller and Hubert. It may have been his intention to present a 'worst case' scenario based on the highest reasonable estimate of the native population at the turn of the century, to demonstrate that even then the country food supply would be adequate. On the other hand, perhaps he believes that the native population is likely to reach 56,000 by 2001. Unfortunately, he did not present his reasoning to his readers.

Fuller and Hubert were careful to point out the limitations of their estimates of the protein content of the fish and game harvested in 1978–79, and of the potential supply in the year 2001. For a number of good reasons they thought that their estimate for 1978–79 may have been low, and their estimate of the sustainable level of protein harvest may have been high. Surely, then, Cox ought not to have manipulated their data and presented the results without qualification.

As far as the native diet at the turn of the century is concerned, Fuller and Hubert did not state that 'Northerners would be eating more fish in the year 2001,' as Cox contended (Cox 1985: 396). Rather, their point was that much of the potential increase in protein supply consists of fishery products. In fact they expressed doubt that native people would want a diet that would be about 80% fish, and also alluded to the cost of transporting all that fish to communities where native people live. Furthermore, Cox (1985: 396) incorrectly stated that, according to Fuller and Hubert, 960 tonnes out of the total potential increase of 1,667 tonnes of protein would consist of fish, shrimp and other marine invertebrates. Fuller and Hubert (1981: 18) in fact stated that 1,525 tonnes (or over 90%) of this potential increase would be from fishery products. Perhaps Cox was thinking of the 976 tonnes of protein which Fuller and Hubert estimated to be the potential increase from freshwater fish alone.

Cox then attempted to calculate the daily protein supply per person in the year 2001, assuming that the proportion which came from fish was maintained at its 1979 level. The figure he reports based on this calculation, 101 grams per person daily (Cox 1985: 396), is also in error. Using his estimate of 65,000 people and a potential supply of 617 tonnes of protein from game (Fuller and Hubert 1981: 21), the daily supply of protein per person would be 66 grams if fish were to supply only 54% of protein consumed. Sixty-six grams is a lot closer to the daily requirement of 55 grams which both Cox and Fuller and Hubert refer to, than the 101 grams which would be available with no change in diet according to Cox's calculation. However, even the figure of 66 grams could not be taken very seriously since it is based on an unrealistic population figure and a very speculative figure about the possible supply of protein from game. Furthermore, a per capita figure for

protein supply cannot be compared with a standard applicable only to adults, since the population includes children whose daily requirements are significantly less than those of adults. The distinction is especially important because of the high proportion of children among the existing and projected native population.

In the second part of his article Cox attempted to demonstrate the true significance of country food in the native economy by comparing the substitution value of country food with sources of cash income received by the Mackenzie natives in 1970. Here again, unfortunately, Cox's manipulation of data from Berger (1977) and Stabler (1977) to produce Table 2, which supposedly shows the various components of income in the mixed economy of the Mackenzie natives in 1970, was incorrect. The cash income data are in fact for 1969–70; but Berger's estimate of the imputed value of country food production was based on estimates of the average harvest over the 1970–75 period, valued using present (circa 1977) prices of substitutes for country food, adjusted to reflect differences between game and domestic species in their protein content (Berger 1977, II: 14). These estimates therefore cannot be used along with data on income from other sources in 1969–70 without adjusting for inflation. Cox's failure to make such an adjustment is one reason why he arrives at the erroneous conclusion that 62% of the income of Mackenzie natives consisted of the substitution value of country food produced in the region (Cox 1985: 398).

Although Cox made no adjustment for inflation, he did attempt to make Berger's data conform to Stabler's definition of the Mackenzie Valley by subtracting the 13% of production reported by Berger, which supposedly came from communities outside the Mackenzie Valley as defined by Stabler. He did not state how he arrived at that figure. The regional data in Berger (1977, II: 31) cannot be aggregated to conform to Stabler's definition. Unfortunately Berger did not present harvest data at the district level which could be aggregated to conform with Stabler's definition. However, of the 21 districts included in Berger's data (Berger 1977, II: 16), 10 are excluded from Stabler's definition of the Mackenzie (Stabler 1977: 60–61). It would be most surprising if those 10 districts accounted for only 13% of the total production value reflected in Berger's data.

Although Berger's data on the value of country food production cannot be adjusted to conform to Stabler's and Cox's data on other sources of income, data on native income from wages and salaries and self-employment for the Mackenzie Valley and Western Arctic region as defined by Berger are available from Meldrum and Helman (1975). The latter presented data from the Northern Manpower Survey Programme—the same source, ultimately, as Stabler used, although Stabler relied on a different publication (Canada, Department of Indian Affairs and Northern Development 1974) which included only the 17 communities in the proposed Mackenzie Valley Pipeline corridor. Data from Meldrum and Helman (1975: 77, 88, 140) show that native income from wages and salaries and self-employment in 1969–70, in the larger region to which Berger's harvesting data refer, were approximately \$4.6 million—far more than the \$2.5 million reported by Cox (1985: 398). However, because of incomplete coverage of the survey, even the figure of \$4.6 million by no means represents all the native income from wages and salaries in this larger region.

Cox (1985: 399) admitted that 'it is possible to quibble with the figures of Table 2,' but maintained that 'their general import is inescapable: native northerners derive most of their income in the form of country provisions.' None of the objections raised here with respect to his data could be considered 'quibbling'. Corrections to his data would result in quite different conclusions.

Cox did make some valid points. Cereal products and country foods complement each other in the native diet. There is a real need for cash from sources other than trapping

to sustain country food production. Strengthening the bush economy could substantially improve native life, even if he greatly exaggerated the proportion of native income which comes from country food production.

However, Cox's primary purpose in writing the article seems to have been to convince those who are inclined to play down the role of the land-based economy that this economy warrants support, through measures such as the Income Security Programme for Cree Hunters and Trappers in the James Bay area of Quebec – a programme whose operation was reviewed by La Rusic (1982). One may well doubt that an article which incorrectly reworks, misinterprets and distorts old data will assist in the establishment of the programmes and policies which will be required to strengthen that economy.

Opinions expressed here are those of the author and not necessarily those of the Government of Canada or the Department of Indian Affairs and Northern Development.

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REPLY

BRUCE A. COX

Department of Sociology and Anthropology,
Carleton University, Ottawa, Canada K1S 5B6

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Let me begin by explaining the purpose which guided my writing of 'Prospects for the northern native economy'. In it I tried to assess the Berger Report's claims concerning the viability and significance of country foods to native northern-ness. I began this reassessment with critiques of the report published in various Canadian periodicals. This survey left the impression that the Nays prevailed; that the experts had thrown grave doubts on the northern bush economy's viability and significance. I simply wished to show that the Nays had not prevailed, and that a careful reading of available evidence would show as much. This required that I 'rework... old data', as my critic puts it. Whether it is worthwhile to do so depends on the continuing significance of the issues