A DEMOGRAPHIC AND NUTRITIONAL SURVEY OF TWO VILLAGES IN THE UPPER ROLWALING VALLEY

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As part of a broad scientific study of the upper Rolwaling Valley during October and November of 1973 by a Scandinavian expedition, information on the health condition among the people of the area was collected. The plan was to cover four villages: Beding Simigaon, Lamobagard and Tasinam, but only the first two of these were covered, as Lamobagard was closed for military reasons and Tasinam already seemed to be surveyed and fairly well covered with health services.

The aim was to carry out a demographic investigation, to examine the nutritional status of the population, to perform a tuberculin survey and to collect blood samples for serological investigations.

In addition to these medical examinations, anthropological, zoological and botanical research was also carried out.

The results of the serological investigations as well as the non-medical research has not yet been published (Nov. 1974).

POPULATION

Demographic information was collected through household surveys and interviews with village chiefs, panchayat representatives, religious leaders and teachers.

In Beding *all* households were visited and one or more persons in each household interviewed. In Simigaon, household information was collected from people who came for vaccinations or consultations, thus 31 of 62 households were examined in this village.

Information on the age-sex structure of the population, the age of marriage, age of child and infant mortality was collected.

Table I. POPULATION OF BEDING AND SIMIGAON.

	Ethnic Group	No. of Households	No. of Persons	Persons per household
Beding (Total	Sherpa	35	187	5, 3
Simigaon	Sherpa	29		
	Tamang	24		
	Brahmin	2		
	Gurung	1		
	Thakuri	1		
	Khami	4		
Simigaon (total)		61	374	6, 1

The sex-age distribution of the population is seen from the population pyramids (Fig. 1) :

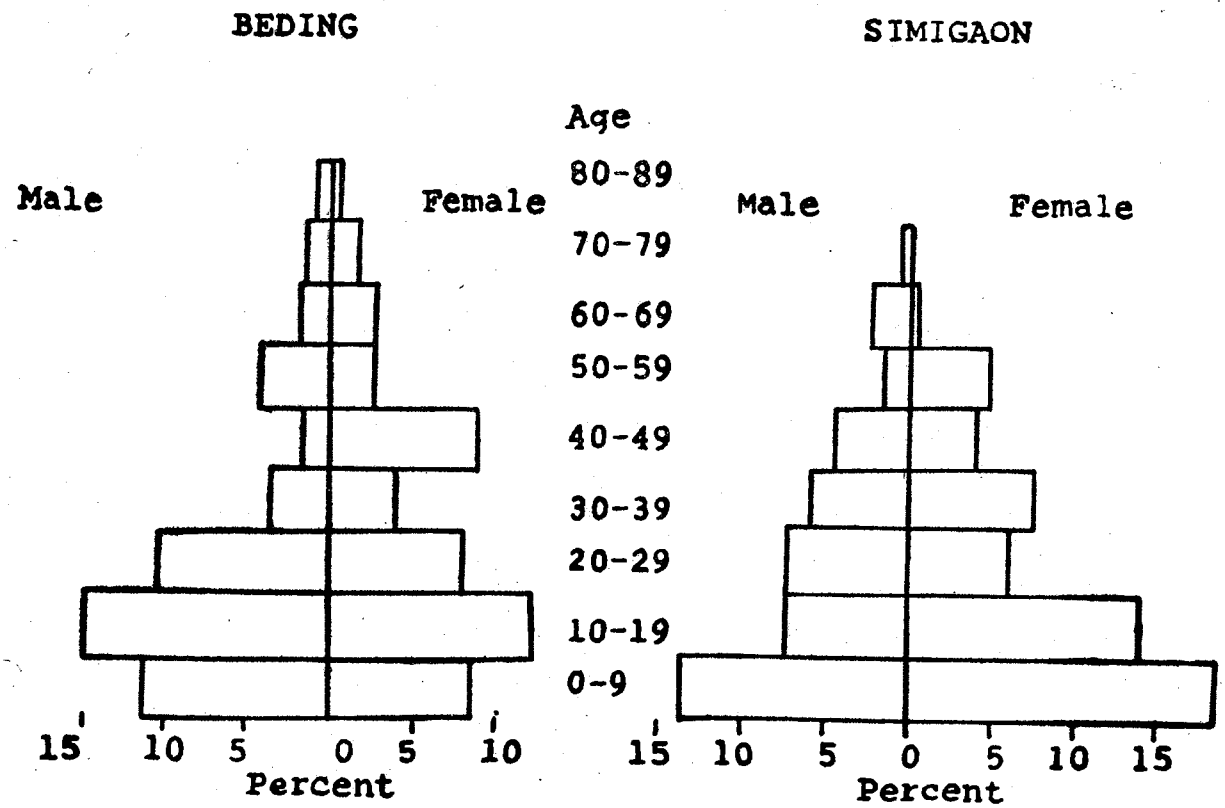

Fig. 1. Percentage distribution by age of the population of Beding and Simigaon in 1973.

Both pyramids show the tendency of rapid narrowing in the upper part, most pronounced in the Simigaon pyramid. This reflect the high child and youth mortality typical of these and many other villages of Nepal (Bibliography: 2, 3, 6) and other developing countries.

Table II. AGE OF MARRIAGE AND FIRST CHILDBIRTH.

	Age of Marriage	Age of 1st Childbirth
Beding	24, 1 yrs	24, 3 yrs
Simigaon	19, 2 yrs	20, 4 yrs

Table II shows that the women of Beding marry later than the women of Simigaon. That is also the custom of the Sherpa villages of Khumbu (3), where the age at first pregnancies for Sherpanis averaged 23,5 yrs.

25 woman of more than 20 yrs of age of each of the villages were asked about their total number ef pregnancies, this was 5,6 in Beding and 5,2 in Simigaon. Information on the number of children who died was also obtained, and a preadolescent mortality (combined neonetal, infant and childhood deaths up to the 12th year of life), of 28% was found for Beding and 21% for Simigaon. These figures are probably very incaccurate due to the lack of written records and often failing memory and sometimes unwillingness to answer questions on these matters.

These figures indicate, as in the Khumbu survey, that about one quarter of all children born alive fail to live into their teens.

NUTRITION

By weighing and measuring children of the two villages information on the nutritional status was gained.

Table III: WEIGHT FOR HEIGHT AMONG CHILDREN 1-16 YRS. [ACCORDING TO JELLIFE (1)]

	No. examined (both sexes)	90%-81% standard	80% standard
Beding	43	4	1
Simigaon	47	5	0
Total	90	9	1

It would seem from Table III that about 10% of the children are 90% or less of standard weight in relation to height. This indicates low frequency of calorie nutrition.

Of the specific deficiencies we could see no children with evident marasmus or kwashiorkor, or typical specific vitamin deficiencies. The most widespread deficiency condition was evidently iodine deficiency resulting in widespread goiter.

Table IV. PRECENTAGE OF PEOPLE WITH GOITRE.

	Persons with goitre, WHO Grade I, II or III (Perez et. al.) (4)	
	male	female
Beding (60 persons examined)	30%	67%
Simigaon (147 persons examined)	59%	66%

The number examined is small and not age-corrected. The frequency of goitre seems to be of the same level as that found elsewhere in the eastern Mountains. This is higher than in the Kathmandu Valley, but not quite as high as in the western Mountains (5, 6).

At irregular intervals iodine injections have been offered in this region of Nepal by local health authorities, the Himalayan Trust or by trekkers.

DISCUSSION

This demographic and nutritional survey presents a picture resembling similar villages elsewhere in Nepal (6). The infant and child mortality is high, and except for iodine deficiency, the nutritional status seemed satifactory.

According to interviews with old people, the population of Beding seems to have been quite stable with a constant number of households for the last 2-3 generations. The village people have recently decided that they want no more people from the outside to settle in the village. The knowledge that the village is on the border

of starvation in bad years with small potato crops, could indicate that the population is marginal with respect to local resources and should not grow further. Other signs are pointing in the same directions, like increasing distance to good wood and building timber, and the great effort the people has to make in order to get grass for the cattle from very high and steep places in the mountains.

About 8-10 young men of the village worked most of the year in the trekking and expedition business, while most people of sufficient physical ability would take porter jobs up and down the valley and for various distances along the route Beding-Kathmandu and Beding-Teschi-Lapcha-Khumbu. How this business will affect the people of the village, their cultural life and their care of fields and cattle in the long run is difficult to assert.

The population of Simigaon seems to have been increasing during the last 1-2 generations by several households, partly due to immigration from lower parts of the Bhote Kosi valley (Brahmin, Tamangs and Thakuris) and from Tibet. Now and then young people have left the village to seek work in other places especially as porters, and to seek opportunities in the Kathmandu valley. The Simigaon population seemed adequately nourished.

Our general impression was that the health of Simigaon was not as good as that of Beding. Though both villages had adequate water supplies there seemed to be more intestinal diseases in Simigaon with reports of blood in stools and intestinal worms. The lower altitude and warmer climate would favour transmission of such diseases by the existance of the neccessary insect vectors and hosts like dogs and cats were numerous In Beding there was one dog and no cats. We also had several reports of Simigaon people with a bloody cough.

Summary

Two villages in the Upper Rolwaling Valley, Beding 12100 ft. or 3700 m. above sea level) has been covered by a demographic and nutritional survey. Beding is a pure Sherpa village, while Simigaon is about half Sherpa and other ethnic groups, mostly Tamangs. The combined infant and childhood mortality of both villages is about 25%, or of the same magnitude as in other parts of the country.

Protein-calorie malnutrition among children seemed almost non-existent and among the specific deficiency diseases only goitre was widespread.

The population of Beding has probably been stable for a long time, may be 30-60 years or more, while the population of Simigaon has been increasing, probably mainly due to immigration.

The general impression is that the high villages of this part of Nepal are self-sufficient at least in years with normal crops but that the local resources of agriculture and forests are utilized close to limits, and that not much larger populations can be supported without food-shortage or starvation. The configuration of the population pyramids suggest that reduction of childhood mortality without family planning programs being introduced would result in a rapid increase of the populations.

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