

# Global AIDS situation and Patterns of HIV Transmission

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WORLDWIDE AIDS surveillance is coordinated by the WHO Global Programme on AIDS (GPA). Reports are received from individual ministries of health, as well as from WHO collaborating centres on AIDS and WHO regional offices.

The number of officially reported AIDS cases worldwide as on 30 December 1990 stands at 314,611.

In the past four years, the cumulative number of AIDS cases reported to WHO increased more than 18-fold, and the number of countries reporting AIDS cases to WHO increased by more than 100, which not only illustrates the widespread distribution of AIDS, but also testifies to the growing openness of countries in responding to the pandemic.

The full burden of HIV infection and AIDS as a result of transmission from an HIV-infected woman to her fetus or infant remains particularly under-recognized. The underestimate results both from under-reporting and from the difficulty in diagnosing paediatric AIDS cases before the child reaches 15-18 months of age. Before that age the presence of passively acquired maternal antibody to HIV confounds the diagnosis. In addition, the clinical manifestations of paediatric AIDS are difficult to distinguish from those of other severe diseases of childhood, especially where laboratory and radiological facilities are limited.

A total number of 81,019 cases have been reported in Africa as on 30 December 1990. In the Americas, during

the same period, a total number of 188,211 have been reported. 80% of the cases have been reported from USA. In Europe, 41,947 cases have been reported. The greatest number of cases have been reported from France, Italy, West Germany, Spain, U.K., and Northern Ireland. In Asia, 872 cases have been reported.

Japan and Israel have reported more cases and there is also a steady increase of cases from Thailand. In Oceania, 2,562 cases have been reported with the majority coming from Australia.

Region	% of Infection
Sub-Saharan Africa	60%
North and South America	30%
Europe and Australia	6%
Asia	4%
	100%

Epidemiological studies in Europe, the Americas, Africa and Australia continue to document only three modes of HIV transmission: (1) sexual intercourse, whether heterosexual, homosexual, or bisexual; (2) exposure to blood, blood products, or donated organs or semen (exposure to blood principally involves

transfusion of unsterilized blood or use of inadequately sterilized needles, syringes, or other skin piercing instruments); and (3) perinatal transmission from an infected woman to her fetus or infant. There is no evidence to suggest that HIV can be transmitted by the respiratory or enteric routes or by casual person-to-person contact in any setting, including household, social workplace, school, or prison settings. There is no evidence that HIV transmission involves insects, food, water, toilets, swimming pools, sweat, tears, shared eating and drinking utensils, or other items such as second-hand clothing or telephones.

WHO has described several broad patterns of HIV transmission and AIDS according to prevailing sexual practices and social risk behaviours (mainly intravenous drug use).

Pattern I areas include the industrialised countries of North America, Western Europe, Australia, New Zealand, and to some extent Latin America. Extensive spread of HIV probably began in the late 1970s or early 1980s, affecting predomi-

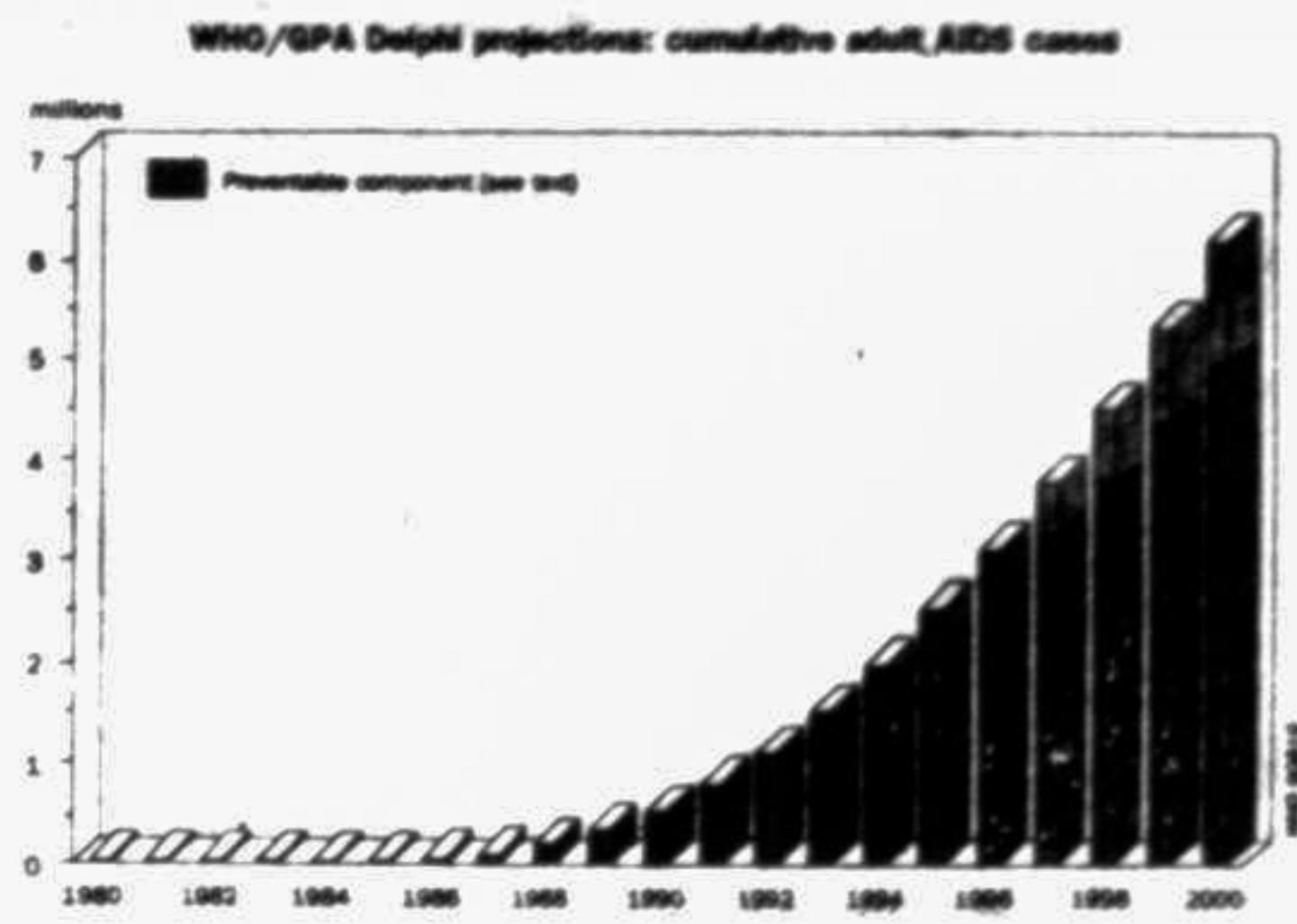
nantly homosexual men and intravenous drug users. The overall male-to-female ratio of HIV-infected persons has been 10:1 and, as at late 1989, the total cumulative number of HIV-infected persons is estimated to be about two million. The relative proportions of homosexual men versus intravenous drug users has varied considerably. In the Scandinavian and other northern European countries, homosexual men have accounted for 75% to over 90% of reported AIDS cases, whereas in Southern Europe, especially in Spain and Italy, intravenous drug users have predominated.

Similar differences were seen in the United States of America, where homosexual men were the predominant affected group on the West Coast, while intravenous drug users constituted a large portion of reported AIDS cases on the East Coast. HIV incidence has shown evidence of decline. The prevalence of HIV infections among intravenous drug users in large eastern cities of the United States also appears to have levelled off during the late 1980s. In other parts of the United States, large numbers of the identified intra-

venous drug users have remained uninfected, but the potential for extensive spread among them will persist as long as they share injection equipment. In the United States there has been increasing documentation of HIV spread among the inner-city blacks and Hispanic populations, largely due to intravenous drug use. Consequently, an increase in the number of HIV-infected women can be expected, along with a concomitant increase in perinatal transmission of HIV.

The epidemiological pattern in many Pattern I countries is thus evolving. In many Latin American countries, transmission among heterosexuals with multiple sex partners has been increasing, making this the dominant mode of HIV transmission. Because of this shift, this region has been reclassified as Pattern I/II.

Pattern II areas include primarily sub-Saharan Africa, and increasingly countries in the Caribbean and parts of Latin America. In these areas, heterosexual transmission of HIV predominates, the male-to-female ratio of HIV infections and AIDS cases is close to equal, and perinatal transmission is on the rise. WHO estimates the cumulative number



of HIV infections in these areas to be over three million. Rural areas generally have been less severely affected, but this may be changing.

Pattern III areas include Asia, most of the Pacific countries (excluding Australia and New Zealand), Eastern Europe, Northern Africa, and the Middle East, where HIV was introduced in the early to mid-1980s, but the general prevalence of both AIDS cases and HIV infections in these areas is low. In at least one Pattern III country, Thailand, extensive spread of HIV infection has been documented, with the prevalence among the estimated 50,000 Bangkok intravenous drug users rising from about 1% in late 1987 to over 40% in mid-1989. Also, in early 1989 HIV infections were found among intravenous drug users in Rangoon, Myanmar. In southeast India, surveys of prostitutes have found an HIV prevalence of between 3% and 7%.

In 1987, WHO estimated that 5-10 million individuals were infected with HIV-1 of HIV-2 distributed more or less equally between Pattern I and Pattern II (including Pattern I/II) areas, with about 100,000 or fewer in Pattern III areas. In mid-1988 WHO's estimate was closer to the lower end of the 1987 estimate — about 5-6 million. Estimates of HIV-infected individuals have generally been revised downward as data have accumulated; for example, the Centre for Disease Control of the United States Public Health Service estimated in 1986 that about 1 to 1.5 million individuals across the United States were HIV-infected, while the 1989 estimate was 1 million.

The majority of AIDS cases projected for the next five years would be expected to occur even if HIV transmission had ceased completely in 1989. The median time from infection to the development

of AIDS is about 10 years. Thus, over the next decade, at least three million additional adult AIDS cases can be expected to develop among the more than five million persons throughout the world estimated to have already become infected with HIV as by 1988. It remains difficult to estimate the current paediatric AIDS burden. Assuming that (a) the rate of transmission from an HIV-infected woman to her fetus or infant is about 25% and (b) that approximately 80% of HIV-infected children will die by the age of 5 years as a result of HIV infection, meta-analysis of available seroprevalence data from sub-Saharan Africa alone suggested a cumulative total of about 70000 to 80000 HIV-infected infants in 1987, rising to 150000 by 1990.

Early in 1989, WHO projected the course of AIDS pandemic to the year 2000, using the Delphi questionnaire survey method. Participants were selected for their knowledge of the global epidemiology of HIV infection and AIDS. The Delphi projections suggest that the cumulative total number of adult AIDS cases might reach 5 to 6 million by the year 2000. More than half the AIDS cases in adults in the 1990s are expected to develop in persons already infected by 1988. Many of the projected AIDS cases that might arise from future HIV infections are considered to be preventable by global and regional HIV/AIDS prevention and control efforts carried out in conjunction with national programmes.

## At Last the Stress-free Way to Weigh Baby

Weighing infants cheaply, accurately and gently so that the child is not stressed is easier said than done. Too often babies are suspended kicking and screaming. Now has come the 150,000 solar-powered weighing-scales invented by an Australian and the answer to all baby-weighing problems. Furthermore, the Australian aid programme has gifted the patent rights to UNICEF. It could, reports Gemini News Service, be one of the most important outcomes of the World Children's Summit just held in New York. By Geoffrey Tansey

IT defied the engineers who put men on the moon. It has taken 21 years after that event to achieve, yet it is essential in monitoring infant and child development. What is his Herculean task? Weighing infants — cheaply, accurately, and gently so they are not stressed.

All kinds of methods are used today — from inaccurate bathroom scales to modern and traditional balances where

appropriate but high-tech solution to the problem of weighing infants accurately anywhere in the world. Children have to be weighed accurately to monitor their growth and nutritional status.

Developed by Australian inventor Peter Goodier, the new scales look like bathroom scales with two small windows at the top-one for the solar cell and one for the digital display.

They use a specially-developed, low-power transducer

scales. The change is converted in the electronics into numbers which display the weight.

This mechanism is housed in a rust-proof case with a life expectancy of at least 10 years. When a mother or health worker stands on them, they see their weight, then zero it by covering the display and solar cell. Next they are handed the infant whose weight is displayed.

Now, in what may be one of

sold the scales to AIDAB with-out royalty.

The new scales overcome the many difficulties associated with traditional methods of weighing, ranging from inaccuracy and difficulty taking readings to the stress caused to infants in scales where they are suspended according to Dr Rohde.

UNICEF estimates the scales will cost about US\$40 per unit and that having the rights will save about US\$7 per unit. By the end of this year UNICEF should have decided on a firm to manufacture the scales over the next three to four years.

The scales are not restricted to use with infants but can measure weights in 100g intervals up to 150kg and can be used for monitoring weight gain in pregnancy.

AIDAB officials proudly point out that they will be labelled as "a gift to the children of the world from the Australian people."

The government claims that aid has gone up by 1.6 per cent this year in real terms but it remains at 0.33 per cent of gross national product and has been on a downward trend since the late Sixties.

Given the political importance of the Pacific and South-East Asian programme there are safe, but aid to Africa, to UN agencies such as the UN Development Programme, which receive voluntary contributions, and to development education and public information is being squeezed.

Australia's current move into recession means it is likely to get harder to maintain aid without greater constituency support. This may mean stressing that aid is not merely something which is a good thing in itself, but also contributes to stability in the region and something much more likely to benefit Australia's long-term security and economy. — GEMINI NEWS.

Geoff Tansey is freelance journalist specialising in development issues.

## Legal Drug Industry In Turkey Struggles

When Namik Kemal Atalan travels abroad, he keeps his fingers crossed that people do not ask him what he does for a living. "When I tell them I'm involved in the drugs industry they usually look around for another seat on the plane," said Atalan.

Atalan is Director-General of the Turkish Opiates Board (TMO Alkasan), which extracts raw morphine from concentrated poppy straw. It also produces such morphine derivatives as codeine, codeine phosphate, diionin and morphine hydrochloride — all for pharmaceutical purposes.

The substances are well known for their pain-relieving and sedative qualities and, with United Nations approval, are also used for pain relief in cancer cases.

But a clampdown on the illegal drugs trade has taken its toll on Turkey's industry in above-board, medical drugs and the country has never fully recovered from the harsh measures that abolished all poppy-growing for a time after 1971.

Poppy producers like Australia are pressing for access to the restrictive US market — now virtually locked up by Turkey. And all the while, bumper poppy crops threaten to lower the world price.

For 5,000 years Anatolian civilizations have cultivated the poppy. The opium obtained from Turkish poppies had the highest morphine content and for many years Turkey supplied half the world's pharmaceutical needs.

In the early Seventies the illicit drug trade increased alarmingly and Turkey, like other opium-producing countries, became a prime suspect as a source of illegal drugs.

To comply with a US demand, Turkey totally banned poppy production in 1971. Poppy fields were destroyed and a way of life for 1.5 million people came to an abrupt end.

The seizure of illegal substances should have fallen off. But other opium-producing countries increased their stake in the lucrative illegal market. These drugs passed through Turkey on their way to European and North American markets and the Turkish authorities seized ever-increasing quantities of hashish and opiates.

Twenty years ago Turkey complied with a US demand and banned its traditional poppy production. The result was far from helpful because Turkish poppies had the highest morphine content and provided half the world's pharmaceutical needs. The destruction of the fields put 1.5 million people out of work. In 1974 Turkey was allowed to reintroduce poppy culture. But meantime, reports Gemini News Service, other countries like Australia had joined the market. Today the future of the Turkish industry is in the balance. by Suzanne Swan.

Then, as now, Turkey was the ideal transshipment point, but it did demonstrate conclusively that it was not a supplier of illegal drugs. In the meantime, to satisfy US demands, it had sacrificed its position as a valuable supplier of legal narcotics and damaged a once-thriving industry almost irrevocably.

By 1974 Turkey received UN approval to reintroduce poppy culture. A new unclamped method of cultivation was used, meaning that the poppy capsule was transported intact to the factory and not cut open in the fields. This was a safer and cleaner method and left virtually no room for abuse. Turkey also implemented a stringent licensing system for growers.

But while the Turkish Opiates Board has facilities to process 20,000 tons of concentrated poppy straw each year,

supplying half the world's annual need of 190 tonnes of morphine, last year the plant operated at only 25 per cent capacity.

Many original poppy growers have now turned to other employment. Water shortages, worldwide climatic changes and soil erosion have combined to put poppy production at an all-time low. Viable solutions to these problems have not been found. Drugs, after all, are not a product that can be advertised like cars or butter. Every gram of morphine processed and shipped must be accounted for with the Turkish Ministry of Health and the UN International Narcotic Control Board.

The pricing structure, too, is rigidly controlled. Turkey is even now waiting to see the outcome of the Australian poppy harvest. An abundant harvest or overstocking of

morphine results in low prices and reduced revenue.

Although TMO Alkasan is one of only two state-controlled enterprises of its type in the world (the other is in Hungary), it does not like to see the cost of production exceed revenues.

Manager Attila Yildirim sits amid a maze of communication equipment linking him to any part of the plant. Security measures impose an extra financial burden, Yildirim said.

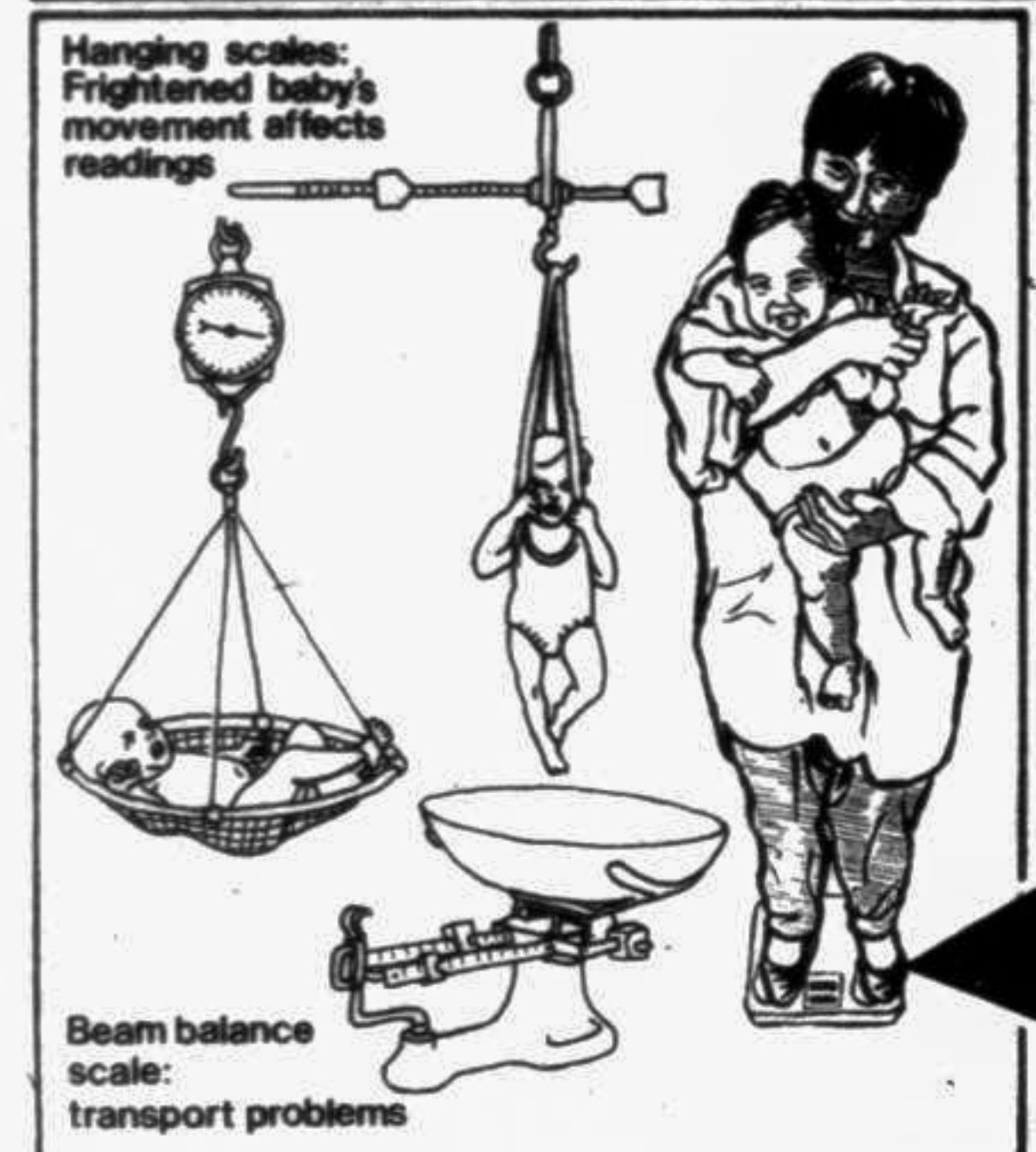
Moreover, the fact that 90 per cent of TMO Alkasan's orders come from only three pharmaceutical companies in the US means the company is very dependent on only a few buyers.

Turkey's last trump card is an arrangement that sees the US buy 70 per cent of its morphine requirement from Turkey, 10 per cent from India and 20 per cent from other sources.

Now Australia is challenging the arrangement and worldwide the industry is in such a state that the slightest change could upset the poppy cart, so to speak. — Gemini News

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### Babies in the balance



children are placed in a container or suspended, too often kicking and screaming, to be weighed. Soon that should be a thing of the past.

In the mid-Seventies, Dr Jon Rohde, of UNICEF's South Central Asia office, challenged the Massachusetts Institute of Technology, which had been instrumental in the NASA moon landing, "to enable us to weigh a child accurately in any village on the earth." Nothing came of it then.

Today, UNICEF is about to produce 150,000 solar-powered weighing-scales — an ap-

propriate but high-tech solution to the problem of weighing infants accurately anywhere in the world. Children have to be weighed accurately to monitor their growth and nutritional status.

The power feeds a "double-ended tuning forks" system which Goodier found a way of making cheaply from sheet steel. The forks are made to vibrate by an automatic plucker—a bit like a guitar string when you pluck it. This sets up a particular mechanical frequency on the beam which changes when you stand on the

the most immediate and concrete things to come out of the World Children's Summit held in New York in September the Australian International Development Assistance Board (AIDAB) gifted the patent rights, worth about A\$1.2 million, to UNICEF, just after the summit.

AIDAB bought the right to use the technology to monitor child growth in public health programmes in developing countries from Sensor International, Goodier's US partnership company which financed his design work and

## Malnutrition Stunting Vietnam's Children

Christina Pastor

SEVERE malnutrition is stunting the growth of Vietnam's children, which in the long run poses a threat to the country's economic development.

"Vietnam is a country where a very large proportion of children will not achieve their full physical and intellectual potential," according to a United Nations report.

The UN Food and Agriculture Organisation reports that "Many will reach adulthood with a diminished capacity to contribute to economic progress."

increased. A study conducted by the National Institute of Nutrition on iron deficiency and anemia indicated a prevalence of 48 per cent to 70 per cent in pregnant rural women. In pregnant urban women, the prevalence was 22 per cent to 44 per cent.

Fifteen provinces out of a total of 40 are affected by iodine deficiency disorders. Altogether, 2.7 million Vietnamese are affected by goiter and 28 million more are at risk.

"The Vietnamese youth have a potential for physical growth which cannot be fully expressed in the prevailing health and nutritional environment," said the report cit-

ing studies made of children and adolescents in Ho Chi Minh City. "The small stature and low muscle mass of the Vietnamese adult population is due for a large part to inadequate food intake and poor health."

The FAO report traced the nutritional deficiency to problems related to the nation's state of underdevelopment.

It said: "The unstable supply of foodstuff and the need to ration food in urban centres in order to improve equity in food distribution have resulted in a constant fear of food shortages, rice shortages in particular. This has been aggravated in recent years by rapid and severe inflation.

"The inefficiency of trans-

portation networks has also contributed to the persistence of a monotonous, quantitatively insufficient and nutritionally unbalanced diet for a large portion of the population."

Vietnam now has a population of more than 60 million. And projection, aiming for a higher rice yield by the year 1995, have been based on a reduced population growth.

Vietnam's food planners have predicted that by 1995, a population of 72.5 million would consume 11.2 million tons of rice. These figures were reached on condition that population growth rate is suppressed from its present level of 2.1 per cent to 1.75 per cent.

The FAO report said these

figures hopefully project a "slow increase" in rice consumption over the next five years.

Secondary food crops—Such as vegetables—have been "neglected" as a staple food, the report added. From 1978 to 1983, 1.3 to 1.4 million hectares were cultivated in secondary food crops. Then from 1984 to 1988, cultivation declined to an average of 1.25 million hectares.

"This unit will need national and external support to enable them to collect, process and analyse data on food and nutrition with the view to integrate nutrition objectives with agricultural and economic development plans," the FAO report said. — DEPTHEWS

## Milk Sketches Bleak Contrast

by Nestor Corvantes

MILK in Asia sketches out a bleak contrast of stunning successes and equally stunning failures.

Most of the milk in the region is produced by farmers who own, in most cases, only one or two milch animals. Due to limited feeding and management skills, milk yields per animal are low.

In 1989, Asia produced 34 kilograms of milk. Worldwide production levels have long reached 189 kgs.

A perishable product, milk needs timely and special attention. But in too many instances, small-scale and rural milk-producers have little support. They are unable to dispose their surplus milk. Most are vulnerable to exploitation by middlemen.

In a region where over 300 million people remain malnourished, milk-short countries of Asia and the Pacific continue to lag in the production of this essential food. But it will not be due to lack of successes elsewhere in the region.

A study made by the United Nations Food and Agriculture Organisation (FAO) documents how the "pooling" of milk by small farmers, within a cooperative structure, boosted incomes. The farmers also secured viable milk supply schemes.

"Dairy producers" cooperatives have been adopted successfully in India as well as in Indonesia, Japan, South Korea, New Zealand and Sri Lanka, says H. Tsuchiya, head of the FAO's regional office in Bangkok.

Among the milk-short countries are Bangladesh, Malaysia, Nepal, Pakistan and the Philippines. Mr. Tsuchiya says they could win self-sufficiency in milk. But the governments have to support this

goal through legislation with complementary technical and financial schemes.

Among the successful cooperatives cited by the FAO study are in Indonesia, Japan, South Korea and New Zealand. But for sheer size and scale, India tops list.

The FAO study documents, for example, the success of the Kaira District Milk Producers Cooperative Society in Gujarat. In 1949, this cooperative had only 924 farmers who pooled 1,136 tons of milk yearly.

By 1987, it had grown into one of the largest dairy pro-

grams in the world. Owned by over 423,000 farmers, it collected 213,769 tons of milk yearly.

It operates milk chilling centres, processing plants, transport facilities, animal feed plants, etc. in all major dairy states of the country.

A strong marketing network linked Indian rural farmers with urban consumers. These farmer-owned cooperatives enabled Indian farmers to get around 80 per cent to 85 per cent of the consumer's rupee.

Overall growth of organised dairy production and marketing ensures a steady supply of milk to India's biggest cities. It has also provided year-round income for close to six million farm families.

"This is all the more impressive considering that it was accomplished with the minimal state interference or assistance," Mr. Tsuchiya says. "One crucial asset has been the political backing at the highest ministerial level."

Such a policy has, in each case, a social, as well as commercial purpose. The FAO study noted. It provides rural employment, more cash income, diversification away from traditional crop production and enhances the utilisation of potential farm labour. — DEPTHEWS

## A small Indian cooperative grows into one of the world's largest dairy programs