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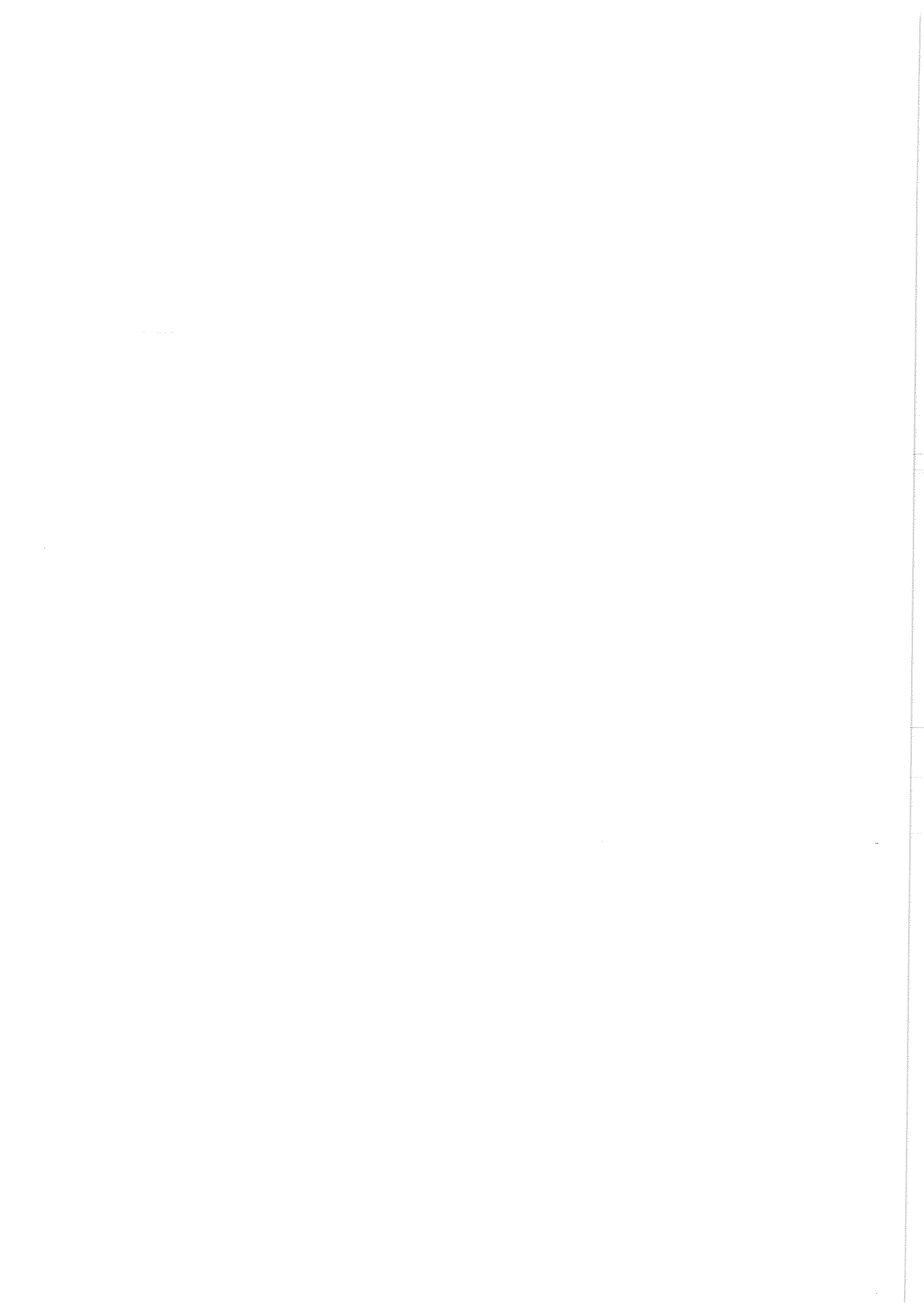
**CASE STUDY ON THE WAY IN WHICH AN URBAN AND
A RURAL COMMUNITY IN YOGYAKARTA PARTICIPATE
IN HEALTH AND HEALTH CARE FOR CHILDREN**

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A Case Study On The Way In Which An Urban And A Rural Community In Yogyakarta Participate In Health and Health Care For Children.

1 Introduction

Mortality and health of infants and young children is of concern and interest to many. Worldwide about 14 million infants and children below five years of age die annually. UNICEF with its continuous call for a 'Child Survival Revolution' and its leading role in the recent 'World Declaration on the Survival, Protection and Development of Children' and the 'Convention of the Rights of the Child' (1990), has contributed to the attention.

Child Survival Strategies (CS) and Mother and Child Health programmes (MCH) hold a prominent position in Primary Health Care (PHC) programmes. In these programmes a set of four technical interventions have been promoted and applied worldwide to save the lives of young children. Of these interventions - Growth monitoring, Oral Rehydration Therapy, Breast-feeding, and Immunization - there were high expectations: 'Also in the last year, more evidence has been coming in from around the world to show that these drastic gains in child well-being can indeed be achieved at a relatively low cost and in a relatively short time, despite economic recession'(UNICEF 1984: 1).

The potential of technical interventions to improve health quickly and dramatically has been questioned however, in particular in the debate on 'Comprehensive' versus 'Selective' approach to primary health care (see Walt and Rifkin, 1986, 1990). In impact studies on child health interventions similar reservations are made: 'Although these interventions were targeted at the leading causes of infant and childhood mortality in developing countries, they have not had as great an impact on child mortality as was anticipated at the beginning of the 1980's' (Gadomski, 1992: 235).

The direct causes of death are not the underlying and structural causes of ill health and death; 'Death is the final biological expression of a process that is determined basically by the economic and social structure of a country or region.' (UN, 1991:7). The potential of medical interventions to affect health is limited because they do not influence the root of the problem. Malnutrition is an important factor in, but rarely a cause of death. An infant and child death is often the outcome of a combined process of multiple infections and nutritional deficiencies which retard growth, lead to weight loss and progressively wear down the child's resistance until an ordinarily minor infection results in death (Martorell and Ho, 1984: 53 and Van Norren, 1988: 105).

The primary health care philosophy acknowledges the limited role of technical interventions to improve health. An equitable distribution of health and health care and community participation in health decisions are two of the five leading principles of the PHC approach (Walt and Rifkin: 1986, 1990). Community participation is needed to safeguard sustainability of health programmes and has been called the key-concept of PHC.

It is the intention of this article to examine how health and nutrition of children are addressed, and what the roles are of technical interventions and community participation in the Mother and Child Health (MCH) programme in Indonesia. The performance of, and the response to the health programme Pos Yandu (Integrated Service Delivery and Nutrition programme) is analyzed in a rural and an urban community, in the Special Province Yogyakarta on Java. The analysis is based on research in which primary data were gathered on physical growth and health of children under-five (for details see Heering, 1988, 1990).

In section 2 a picture is given of mortality, morbidity and malnutrition conditions of children below the age of five years in Indonesia. The approach of the Pos Yandu Programme is described in section 3. In section 4 the research setting is introduced and the reported results of the Pos Yandu programme in the research areas are discussed. In section 5 nutritional status and development with age of a sample of children is presented. A discussion of the character of the health interventions and the

involvement of the communities in the Pos Yandu activities follows with in section 6 a description the circumstances under which the activities described in section 3 are carried out in the two research locations. In section 7 community participation and the role of social control are analyzed.

2 Mortality, morbidity and malnutrition among children in Indonesia

Out of 1000 live births 71 babies die before they reach the age of 1 year in Indonesia (data source intercensal survey 1985, reference date 1982-83). There is a marked urban - rural difference in infant mortality. The urban infant mortality rate was 57 per 1000 and the rural 74 per 1000 in 1982-1983 (same source). Infant deaths account for about 30 percent of total deaths in Indonesia in 1982-83 (UNICEF, 1988: 35). Eight to ten out of one thousand children between 1 and 4 years of age die (UNICEF, 1988: 44). The infant mortality rate (IMR) has declined substantially in the last decades. The 1971 and the 1981 census estimated IMR to be 132 and 112 per one thousand live births, respectively. Despite these sharp reductions Indonesia lags well behind many of its Southeast Asia neighbours. Indonesia's IMR has been almost double the average level in the Philippines, Malaysia and Thailand since 1965 (UNICEF, 1988: 35).

The mortality of infants and children is considered too high by the Indonesian Government. The Minister of Health placed the issue of Child Survival at the top of the Primary Health Care Agenda of the Indonesia's fourth Five Year Development Plan (Repelita IV: 1984-1989). The Minister of Health in March 1984 noted:

'Although we have made significant progress in health development, this development is still not what we expect it to be, particularly due to the fact that infant and child mortality rates are still high. This infant and child problem will become our focus in Repelita IV.()All health efforts will be exercised to reduce infant and child mortality rates' (quote from Prisma 1986: 12).

Of the four main causes of total infant deaths - tetanus, perinatal causes, diarrhoea

and acute respiratory infection (ARI) - the first two are seen to be predominantly mortality factors in the neonatal period (within one month of birth), while diarrhoea and ARI are of major importance later in infancy (post-neonatal period) (UNICEF-Indonesia, 1988: 42). In early childhood (1-4 years) the pattern of causes of deaths is similar to that in post-neonatal period.

Half of Indonesia's children under five are malnourished according to Government and UNICEF publications (see Tarwotjo & Soekirman, 1978; Dept. of Health and CBS, 1987 in UNICEF-Indonesia 1988; UNICEF 1984; UNICEF-Indonesia 1984 and 1988). There is a significant urban-rural difference in the prevalence and degree of malnutrition. More than half (57%) of the urban underfives has adequate nutrition, against 44 % of rural underfives. The four principal nutrition problems are protein-energy malnutrition, vitamin A, iodine and iron deficiencies (UNICEF-Indonesia 1984 and 1988).

3 Health programme's approach to child health and (mal)nutrition

The primary source of health care and public education and information about health and nutrition is the Puskesmas (Pusat Kesehatan Masyarakat = Community Health Centre). The Puskesmas takes the initiative to mobilize community involvement in health programmes and is responsible for supervision, technical support and training of health volunteers who are active in the villages.

In 1974 a health programme was designed to address nutrition problems of families. It depends to a great extent on volunteers and community activity and is called UPGK -Ushaha Perbaikan Gizi Keluarga- Family Nutrition Improvement Programme. UPGK is an integrated, multi-faceted programme for nutritional promotion and education. It attempts to treat or prevent three principal nutrition problems mentioned above¹. Poor food intake is one of the causes of malnutrition and is the result of inadequate resources, but also - at least according to health programmes - of inadequate knowledge about how and when to feed infants specific foods. Education on proper feeding is therefore a key component of this programme.

The central activity of UPGK is growth monitoring of children from 0 to 5 years of age. The growth chart enables mothers to check if their child grows properly in weight. Mild and moderate forms of malnutrition are not obvious and visible by eye, and are therefore difficult to prevent or to cure without a monitoring system. Weight-gain is stressed in the system. Monthly child weighing takes place in the house of the hamlet head. The health volunteers of a community organize and run the weighing sessions. Their most important task is to interpret the growth charts and to counsel mothers on nutrition and health issues. The volunteers have to take time for general and specific information about weaning food, the number of meals, variation in meals, and educate the mother in how to use or prepare an oral rehydration solution. Volunteers have to be able to recognize a child with faltering growth and refer it to the Puskesmas. Apart from personal advice the volunteers are expected to give public talks and demonstrations concerning health, illnesses, nutrition and play a so-called nutrition game with the mothers.

In order to perform these tasks, the volunteers are trained to organize the weighing sessions with four "stations". At the first station the mothers register, at the second station her child is weighed, at the third the result is written on the growth chart, and at the last station there is time for consultation and advice. The system of registration requires the volunteers to report the following data to the Puskesmas every month: The number of underfives in their hamlet, the ones who possess a growth chart, those who attended, those who gained weight. The volunteers are trained to focus and report on weight-gain not on the position at the growth chart. Recording and reporting is an important monitoring feature of the programme.

Since 1984 the activities at the weighing posts have expanded, because the Indonesian Government decided to integrate the delivery of five key health programmes for mothers and children. The lack of coordination among the activities of these programmes led to overlaps and inefficient use of resources. The new strategy had to be implemented through the 'Posyandu' (Pos Pelayanan Terpadu = Integrated Service Delivery and Nutrition Post). The Posyandu grafts onto the weighing post the four other MCH programmes, the Expanded Programme of Immunization

(EPI), Control of Diarrhoeal Diseases (CDD), Maternal and Child Health (MCH), and Family Planning (KB). Puskesmas teams visit the UPGK weighing posts in their area, and are more actively entering communities to provide services and professional support.

To sum up, the child health programme in Indonesia is a primary health care programme, in which community health volunteers and mothers play an important executing role. The four interventions recommended by UNICEF to improve child health are combined in the Posyandu. Weight-for-age and weight-gain in the first 5 years of life are the indicators used to assess and monitor a child's growth and health.

4 The Posyandu health programme in the two research areas

4.1 Introduction to the comparative study

The way in which the family nutrition improvement programme and the Pos Yandu function in practice has been explored in a field study of 7 months in the Special Province Yogyakarta on the island Java in 1986. One of the aims of the research was to compare urban and rural health conditions and health behaviour (see Heering, 1988). Mortality and health indicators generally show a marked difference between urban and rural rates. Rural infant and child mortality rates are higher than urban ones. The differences in the prevalence of malnutrition have also been mentioned. These differences are partly attributed to differences in the amount and quality, but also in the use of health facilities in urban versus rural areas (ref UN 1985). Because the differences in use of and response to the health interventions was the major interest in the urban-rural comparison, research locations had to be selected which had reasonably comparable quality of health facilities and similar attention for the posyandu programme.

This section 4 starts with introducing the research setting (4.2), then the reported results of the weight monitoring in the two research areas will be discussed (4.3), on the basis of which some observations are made about the indicators used in the

system (4.4). Section 5 of this article will return to the Pos Yandu and describe how it functions in practice in the two locations.

4.2 Research setting

The urban research location selected was the village Condongcatur, located at 6 to 10 km. northeast of the city of Yogyakarta, it is part of the subdistrict Ngaglik in the district Depok. The population numbered almost 24,000 people in 1986, population density is as high as 2500 persons per km². Due to the inflow of civil servants into a government housing project and of middle class into private houses the southern part of Condongcatur has become an extension of the city of Yogyakarta. The suburban character is reflected in the economic data. About half of the registered jobs are classified as civil service occupations, the fastest growing sector. A third of the population earns a living with either by agriculture (17%) or trade (15 %). The remainder is involved in crafts and industry and services. According to the economic section of the village council, per capita income was about \$ 75 per month in 1985. (Annual Report Condongcatur, may 1986: 3, 4). The village has its own Puskesmas and 22 weighing posts, one for each hamlet. Private practices, clinics and hospitals in Yogyakarta city are within easy 'reach'.

The second research location was Banyuroto a rural village about 30 km. west of Yogyakarta city and part of the dry hills of the subdistrict Nanggulan in the district Kulon Progo. Nanggulan has poor soils, 60 % of the area is hilly calcareous rock, on which cultivation is difficult. Three quarters of the population of the subdistrict are farmers. Banyuroto is the poorest village of the subdistrict. Whereas the estimated per capita income is about \$ 15 per month for the subdistrict, Banyuroto has an estimated \$ 4.8 per capita income per month (Annual Report UPGK of the subdistrict Nanggulan, 1986) The size of Banyuroto's population is less than 4 thousand people (3630) and the population density is 480 persons per km². About 15 % of the village area consists of irrigated rice-fields, which give high yields. Almost a third of the land is classified as un-irrigated arable land, of which the yields are much lower and the production is limited to dry rice, cassava, soya beans and vegetables. In the dry season people

living near the river Progo collect pebbles and sell them. Income acquired by selling the pebbles is an important addition to income from agriculture. (Annual Report UPGK of the subdistrict Nanggulan, 1986).

The village Banyuroto does not have health facilities of its own, but the puskesmas of the subdistrict is only 2 kilometres away. The subdistrict Nanggulan has one community health center, one birth clinic, one private practice and three private paramedics practices for a total of 29,000 people. The staff of the community health center visits Banyuroto once a week to deliver services at one of the 4 hamlets which have a posyandu.

4.3 Comparison of the village registration on the weighing posts' results

In the table below an impression is given of the reported results of the monthly weighing sessions at the posyandu over a period of one year (1985/86) in the two villages. There is a considerable variation in all indicators reported, in the number of weighing posts that report, in attendance at each weighing post and in weight-gain.

Table 1 Summary of village registration of Pos Yandu weighing programme

weighing post characteristics	Condongcatur = urban	Banyuroto = rural
number of underfives	2000	280
number of weighing posts	22	8
number of volunteers	150	15
no. of children per weighing post (range)	min. 30; max. 130 average 100	min. 23; max. 48 average 30
reporting	75 %	90 %
attendance (range)	30 - 80 %	50 - 90 %
weight-gainers (range)	32 - 38 %	33 - 50 %

Sources: UPGK reports on village and subdistrict level, 1986

The big differences in the number of children per weighing post is the first striking feature of this comparison. In Banyuroto the weighing posts cover much a smaller number of children. Not all the weighing posts do report each month. Attendance differs between weighing posts and with the season. Harvest peaks coincide with low attendance rates in all of Banyuroto but also in the rural hamlets on the northern fringe of the village Condongcatur. The percentage of weight-gainers over the year varies comparatively little in Condongcatur, but does vary considerably in Banyuroto. In the periods where there is weight-gain in Banyuroto, the average gain is higher than in Condongcatur.

The comparison above yields some surprising results. The Pos Yandu weighing posts in Banyuroto cover a smaller number of children, they report better, and have - apart from harvest seasons - a better attendance than in Condongcatur. Pilot studies in East Java during the mid 1970s found that 30 was about the ideal number of children for a weighing post and 50 the absolute maximum. Beyond that number the activities became increasingly unmanageable (Prisma, 1986: 18). The number of children per weighing post in Banyuroto is near the ideal stated by the East Java study.

Weight-gain, the indicator to assess and monitor a child's growth, is difficult to judge from the data. In Banyuroto there appears to be a clear seasonal pattern in weight-gain. In a subsistence type of economy like Banyuroto, the pattern in weight is likely to coincide with peak and scarcity periods in food availability. More detailed information over a longer period of time would be needed to analyze and confirm this idea (see Hill, 1985). Only about a third of the children weighed in Condongcatur gain and there is hardly any variation in this percentage. There is, however, a considerable variation in who attends, this could mean many things. Real weight-gain cannot be established because roughly half of the children have not been weighed in the month before, therefore the figure is negatively biased. Or the figure is based only on those that visited the month before and faithful weighers grow badly. Or mothers who are worried about weight-gain of their children.

The nutritional status of the children of the two communities can not be assessed and compared based on these data. Apart from the data not being complete and consistent, the selective coverage in Condongcatur is an important problem. People in Condongcatur are near private doctors and hospitals, where children can be monitored as well, leading to a partial picture. The picture is limited for a second reason: the choice to focus on weight-for-age and weight-gain.

4.4 Limitations of the weight-gain and the weight-for-age concepts.

Weight-for-age has the problem that it confounds both the acute and chronic aspects of malnutrition. 'Over the age of 2 years weight-for-age data will very likely give a unrealistically high proportion of malnourished children when height-for-age is affected as well' (Kusin, 1984: 10). Relatively short-term factors such as seasonal food deficits and disease episodes lead to weight loss and acute malnutrition. Acute malnutrition is established by relating weight to height (Kusin, 1984). In contrast to acute malnutrition, chronic malnutrition is reflected in height retardation. In short: height-for-age portrays chronic malnutrition and weight-for-height acute malnutrition. But if we use weight-for-height without weight-for-age the nutritional status is overestimated: the children are small, look healthy but are chronically malnourished. The three parameters can be used best in combination.

Longitudinal studies on nutrition and health in East Java in the 1970's have used this combination of parameters. They report: 'Malnutrition was prevalent from as early as 0-6 months and was of a chronic type. The *most critical period was the first 24 months*. Height lagged behind progressively also thereafter; weight-for-height showed a recuperation after 24 months of age' (Sri Kardjati, 1985: 1, emphasis added). In East Java acute malnutrition peaked in the age period of 7 to 24 months. Deterioration in the sense of acute malnutrition comes to a halt at age 24 months followed by a period of steady growth, parallel to reference curves but at a lower level and with a lower rate. The gap widens with age: East Javanese children, age 4 years, have the same height as Harvard children, age 2 years and the same weight as Harvard children, age less than 2 years (Sri Kardjati, 1985; De With, 1985; UNICEF-Indonesia 1988).

5 Nutritional status of a sample of children

A survey was organized in the Condongcatur and Banyuroto using registration of births as a sampling frame. In order to have a common basis to judge growth and health of children, the weight and height of a sample of children were measured in order to provide the three mentioned indicators of nutritional status. The aim of the survey was to examine the nutritional status of children - rural-urban differences in status and patterns with age -, and the response to health interventions by the recipients. A sample of 150 households with children under five years of age was selected and visited, of which 141 provided all the necessary data for the analysis². Interviews were held with mothers and the weight and height of their under-five children were measured. The sample consisted of 71 urban and 70 rural households, which provides 177 cases for the analysis, that is children under five whose nutritional status is measured. Of these 90 were urban and 87 were rural. Households could have up to three children under five. For more details of the survey see Heering 1988 and 1990.

The age, weight and height of the children in the sample are combined and compared with the most recent reference values for weight and height with age recommended by the WHO (1983). The reference standard is called 'NCHS' reference (= The National Center for Health Statistics) and is meant for international use³.

The classification and definition of protein-energy malnutrition of Waterlow was used to arrive at the 'normal', 'mild', 'moderate' and 'severe' malnutrition categories⁴ (see note for details, WHO, 1976).

Table 2: Nutritional status of the underfives

NUTRITIONAL STATUS	Weight for age		Height for age		Weight for height	
	no.	%	no.	%	no.	%
normal	46	26	63	36	115	65
mild malnutrition	87	49	69	39	53	30
moderate malnutrition	43	24	35	20	8	5
severe malnutrition	1	1	9	5		
TOTAL	177	100	176	100	176	100

Source: Heering: 1988:107

The majority of underfives weigh too little for their age⁵. For their height, on the other hand, 65 % have a good weight, so two-third of the children do not look ill-fed but are small and well proportioned. Almost two-third of the sample have some degree of height retardation. About a quarter of these "short" underfives are moderate and severe cases. Since height retardation is widespread, there is a fair amount of chronic malnutrition⁶. Rural children in the sample were initially expected to be more malnourished than urban children. In table 3 data for urban and rural children are separated.

Table 3: Nutritional status by residence (in percentages).

RESIDENCE Nutritional Status	URBAN			RURAL		
	WFA	HFA	WFH	WFA	HFA	WFH
normal	29	40	54	23	31	77
mild malnutrition	39	37	37	60	41	23
moderate malnutrition	31	17	9	17	23	
severe malnutrition	1	6			5	
TOTAL	100% = 90 cases			100% = 87 cases		

Source: Heering (1990: 29).

The pattern in weight-for-age (WFA), is surprisingly good for the rural group; the majority of moderate and severe cases of underweight are found in the urban setting. The degree of chronic malnutrition or low height-for-age is larger in the rural group. Because height is more retarded in the rural group, their weight-for-height is on average better than that of the urban group, so there is less acute and more chronic malnutrition in the rural as compared to the urban sample.

An analysis of a pattern of growth and malnutrition with age will help to identify vulnerable ages, and therefore entry points for (health) interventions. Growth by age-group of the children of the sample is presented to examine the growth pattern in the first three years of life. The ages of the underfives are obtained from their birth certificate and are considered reliable (Heering 1988: 106).

Table 4 Age distribution of the sample

age in months	number of children
0 - 12	23
13 - 24	35
25 - 36	36
37 - 48	42
49 - 60	41
TOTAL	177

Source: Heering, 1988: 106

Except for the youngest group, which is relatively small the spread over the age groups is satisfactory for a sample this small, and selected at random. There are too few cases however to allow a systematic comparison of urban rural differences for each age group, which is unfortunate. Nutritional status in the first year of life is presented below.

Table 5: Nutritional status of infants (in numbers).

Nutritional Status	weight for age	height for age	weight for height
normal	12	18	16
mild malnutrition	8	4	5
moderate malnutrition	3	1	2
severe malnutrition	0		
TOTAL	23	23	23

Source: Heering, 1988: 108

The nutritional status is "normal" for the majority of infants, due to the protection of breast-milk, but acute malnutrition is found in a few cases. Probably children who have been ill recently. Between the first and second birthday we expect the highest prevalence of malnutrition, and especially acute malnutrition.

Table 6: Nutritional status of 1 to 2 year olds (in numbers).

Nutritional status	weight for age	height for age	weight for height
normal	8	17	18
mild malnutrition	20	11	14
moderate malnutrition	6	7	3
severe malnutrition	1		
TOTAL	35	35	35

Source: Heering, 1988: 109

'Normal' nutritional status is found for a minority of cases only. Half of the children have a weight too low for their height. Both acute and beginning chronic malnutrition is apparent, but acute malnutrition is the striking feature of this pattern. The lowest Weight-for-height figures are found in this age group. Similar to the results of the East-Java studies this age period comes out as a very vulnerable one. Finally, the growth in the third year of life is presented to see if there is indeed less acute and more chronic malnutrition.

Table 7: Nutritional status of 2 to 3 year olds (in numbers).

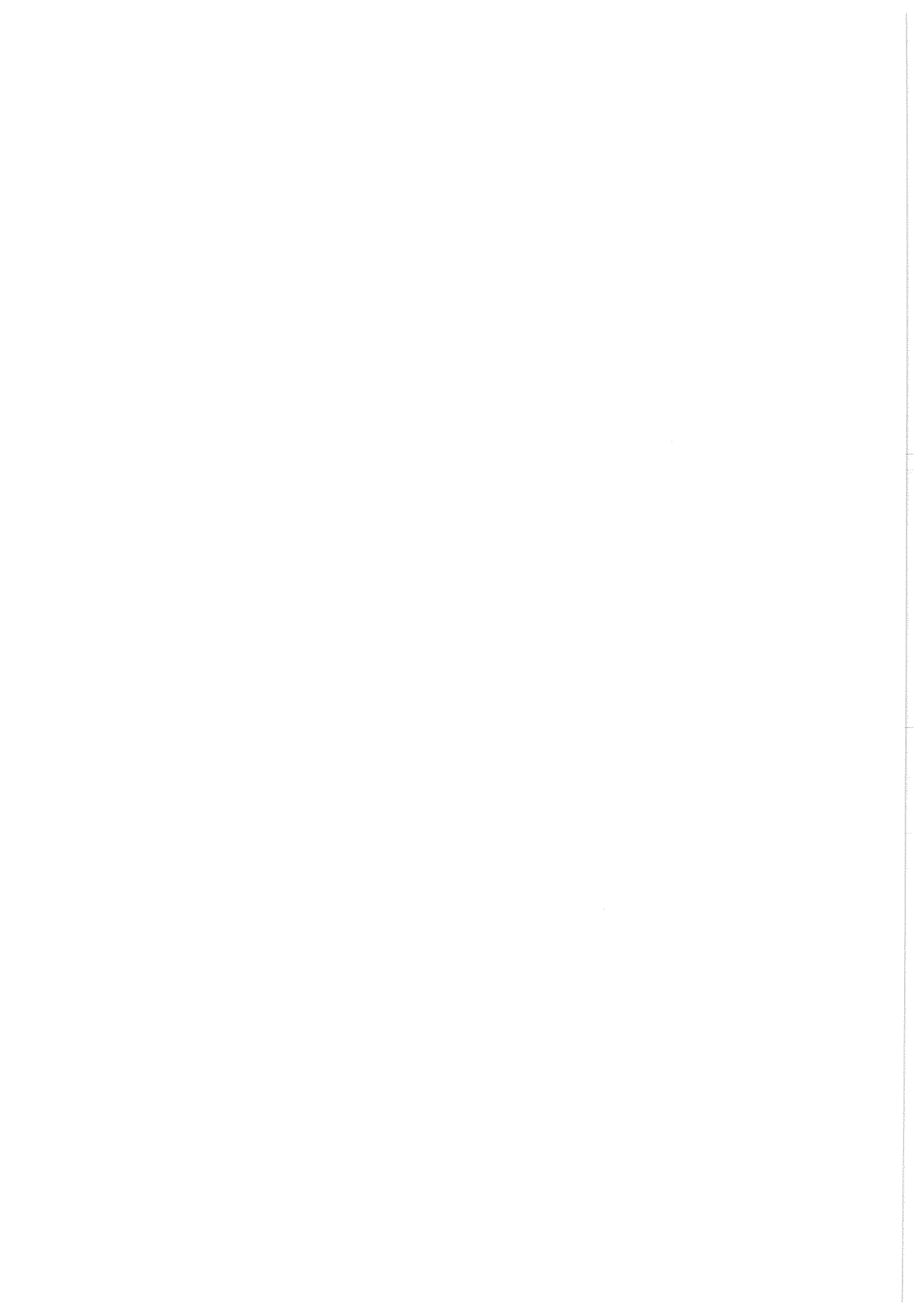
Nutritional status	weight for age	height for age	weight for height
normal	11	12	20
mild malnutrition	15	14	13
moderate malnutrition	10	8	2
severe malnutrition			
TOTAL	36	36	36

Source: Heering, 1988: 110

In the 'third year' group there is less acute and more chronic malnutrition than in the 'second year' group. Apparently the children adapted to the situation and the ones that survived are small and grow slower than reference children. In the fourth and fifth year this trend is continued: a smaller proportion of children shows signs of acute and an increasing proportion has chronic malnutrition (see for details Heering: 1988: 111).

In summary, the growth pattern in weight and height of children in the Yogyakarta sample is similar to most published data from Indonesia (see Kardjati, 1985). The common features are acceptable growth during the first 4 to 6 months, a progressive faltering till about 24 months and a steady growth, parallel to reference curves, after two years of age for surviving children. The nutritional status of the rural children is surprisingly good in comparison to that of the urban children in the sample. These results, together with the comparatively good performance of the weighing posts in rural Banyurorto (see section 4), leads me to discuss the role and contribution of the health programme and community involvement.

In the remainder of the article the role of the Pos Yandu and community participation in the two research locations will be discussed. Health practices of mothers and the urban-rural differences in them are very important and revealing, but these are discussed elsewhere (Heering, 1990).



6 The activities at the Pos Yandu

Only a minority of weighing posts worked with the recommended four stations. The feasibility of activities is dependent upon the number of mothers and children at the weighing sessions. When 100 or more mothers crowd into a room or onto a verandah for a weighing session, personal and group communications are extremely difficult to effect. Waiting times add up to two or three hours. Volunteers are under pressure to "process" the children quickly, and individual counselling of mothers is virtually out of the question. Both attendance and performance in these large groups is lower than in small ones. Still, only one of the big weighing posts in Condongcatu could recruit enough volunteers and means to divide into four separate blocks.

As a result of this situation, weighing the children and registering the results on the growth charts, forms and in the books, have first priority. Counselling and education, the monitoring by interpretation of the weighing results and referral to professional help when necessary, are considered of secondary importance. UNICEF observes: 'The simultaneous expansion and dispersion of the UPGK and Posyandu programme has been achieved at some cost to service quality and within village coverage.' (UNICEF-Indonesia, 1984: 126-7).

Fulfilling the demands of the health authorities - registration - comes first, with serious effects. One study by the Ministry of Health shows that 40 % of children not gaining weight were missed by volunteers, while 20 %, who were actually gaining weight, were judged not to be gaining weight (Yayasan Indonesia Sejahtera, Growth Monitoring as a primary Health Care Activity, 1984, in: Prisma, 1986: 20). This problem is found in the two villages, as well. The volunteers rarely undertook action when children were losing weight or slipped into the danger zone. A good reason could be that supplementary feeding for malnourished children was generally not available (ibid, 20). The Puskesmas in both areas complained about the lack of food stocks to provide supplementary feeding as well as about the lack of sufficient essential drugs to allow treatment of all common illnesses. With no proper follow-up and treatment and in these conditions, monitoring becomes a ritual and not an aid to help children through their

difficult years of childhood. (see Rifkin and Walt, 1986)

The weighing sessions in the villages have changed with the addition of all the other child health interventions in one integrated post. The influence of the puskesmas on the community activities has increased and their involvement has changed from training volunteers initially, to provision of services now. 'The Posyandu undoubtedly makes health care more accessible to the groups whose health is most at risk' (Prisma, 1986 :17). So the Pos Yandu has made the weighing sessions more attractive, especially in Banyuroto. The sessions are very popular, complete families visit the post to get treatment for illnesses. The trip to the house of the hamlet head is a real multi-purpose one. Immunization rates rose dramatically after the introduction of the Pos Yandu approach (UNICEF-Indonesia, 1988). Other health programmes make use of this network to screen, or educate the community. The TB screening team visited the Yandu to trace patients.

The weighing sessions benefit from the new Posyandu approach, but there are disadvantages too. All activities take place in one room, making individual counselling virtually impossible. In the vicinity of the 'professionals', the volunteers behave humbly and their attention is drawn away from the mothers. They have to pay respect to these 'high' persons. With the addition of family planning to the weighing post, mothers who are non-acceptors of family planning do not attend out of fear.

With the introduction of Pos Yandu, the tasks (and workload) of the Puskesmas are enlarged: a team of paramedics and a midwife have a fulltime job providing immunization, family planning and curative mother-and-child care services to the weighing posts.

7 Community Participation

Community participation has been called the key concept of primary health care 'because it has been seen as the mechanism that ensured that health care beneficiaries became involved in the decision making process of health care priorities

and resource allocations' (Walt and Rifkin, 1990: 17). But in Indonesia community involvement has rarely extended to a vital role in decision-making (which was its intention).

The role of the community in the growth monitoring process of their children has, with the introduction of the integrated health posts, in effect not increased but decreased. There are gains and losses: gains, because the providers of health services have to put more effort in reaching their clientele; losses, because the character of the weighing changes away from a community activity to health service activity. The role of social control and social pressure are part and parcel of Indonesian community participation (see Streatfield and Singarimbun, 1986). The importance and role of social pressure differs between rural and urban areas.

The village headman in Banyuroto plays an important role in motivating mothers to attend the weighing sessions. On his initiative a link was established with a non-governmental organization which donated dry skimmed-milk to the village. The milk was used as incentive (or sanction) for attending (not attending). The motivating power of headman often consists of instructing people to attend activities. Streatfield and Singarimbun observe in a study on immunization in Yogyakarta:

'The major reason for non-use or incomplete use of DPT and Anti-Polio was that the village headman had not instructed the mother to take the child for immunization. This reflects the very important role of the headman in implementation at village level of government programmes of all kind' (Streatfield and Singarimbun, 1986: 54 emphasis added).

In the pos yandu evaluations reported in Prisma the same observation is made; 'Most mothers bringing their children to a weighing post do so in the first place because the hamlet head or his wife told them to' (Prisma, 1986: 20).

In suburban Condongcatur the village headman did not have this kind of control, nor could he apply sanctions to influence attendance and behaviour (own observation).

With the sheer number of alternatives available for generally overcrowded weighing sessions, incentives or sanctions do not make sense. Social pressure and moral obligation play a much bigger role in the rather isolated small community of Banyuroto than in the rapidly growing and changing community of Condongcatur. The village characteristics fit the description of a modern village as described

Paternalistic attitudes and "top-down" decision-making within the health system have produced a form of community participation based on giving orders rather than fostering health awareness and responsibility. This pattern is reinforced by hierarchical social structures and paternalistic relationships within the community itself (Prisma 1986, 20) Dr. I. Bagus Mantra, Head of the Community Health Education Centre is quoted in the same article (page 22):

'A question we have to consider carefully is whether we health providers are properly prepared for the job of developing and guiding community participation. Are we prepared to change our own mental attitudes from paternalistic to participatory ? (Partisipasi Masyarakat dalam Bidang Kesehatan, 1985).'

8 Conclusion

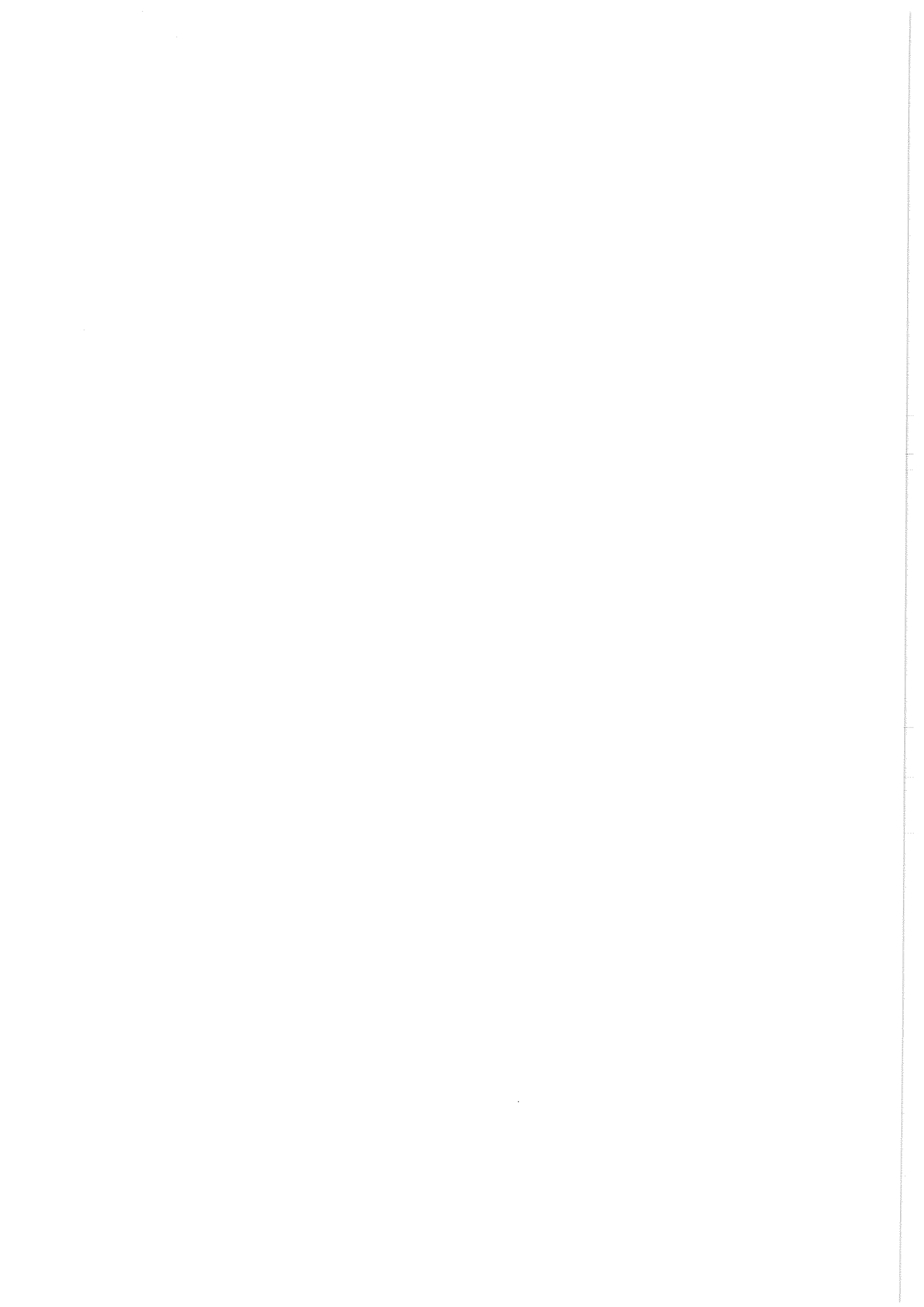
At its inception the idea of the child health monitoring programme was to be a multi-sectoral (food and health) programme with an important involvement of the community. With the changes that took place (of which Pos Yandu is one) the programme has put more emphasis on medical and technical interventions and less on community involvement to tackle malnutrition and health. This is in line with the selective approach mentioned in the introduction.

The results that the Pos Yandu programme itself produces shows that its monitoring function does not really work. Treatment and action rarely follows when a child is discovered to be malnourished or in danger of becoming malnourished. By addressing all the children below five in the same way in overcrowded weighing posts, the

vulnerable age group is missed. The analysis of weight and height with age of a sample of children shows, together with the results of other studies, that there is a clear age group with a significantly larger degree of acute malnutrition. The children in this age group, between 1 and 2 years of age, are much more vulnerable to malnutrition and infections than the younger and the older ones.

The analysis of the implementation of the programme shows that the effects of the Pos Yandu programme on health are to a great extent determined by the community context in which they operate. In the rural settings of the study, the health of underfives was comparatively good. This is due to many other things than just the health programme, but, for the purpose of the article, it was singled out and discussed. A commitment of the Puskesmas staff to bring preventive and curative services to the different hamlets in the villages, together with a good organization of the community weighing sessions, has improved health provision to the villagers. Social pressure and incentives and sanctions from village and hamlet headmen played a critical role in mobilizing volunteers to run the weighing sessions, as well as in stimulating women to attend the sessions.

In the urban setting, the social pressure and prestige of a head man plays a smaller role than in the rural one. Rallying support for voluntary activities is more difficult, especially when there are 'professional' alternatives, like hospitals, private practices and so on. As a result, the overcrowded weighing sessions are seen as a time-consuming activities with a poor service.



End-notes

1. The Departments of Health and Agriculture have been the most active participants since the programme's inception. The Food and Nutrition Unit contribution primarily lies in a active shift of resources away from an almost exclusive concentration on rice and cash crops towards secondary food crops, home gardening and livestock, and fish production. The Ministry of Health and the National Family Planning and Coordinating Board (Badan Koordinasi Keluarga Berencana Nasional, BKBBN) played a leading role in the development and implementation of the UPGK programme. Starting in 1978, UPGK activities were "piggy-backed" on the extensive and well developed family planning programme. (UNICEF-Indonesia 1984, 1988, Heering 1988)

2. The households could not be sampled at the village level because, the registration of couples having children under five was only available at hamlet level. First hamlets were selected, after which a random sample of households was selected at hamlet level. Three suburban hamlets in Condongcatur nearest to Yogyakarta town were selected, contributing 25 households each to the urban sample of 75 households (71 for the analysis). Two smaller hamlets 10 km. north of the town provided another 25 households (21 for the analysis). These 21 households were added to the rural sample of Banyuroto because socio-economic and environmental conditions were rural and not suburban. In contrast to the suburban hamlets there was no electricity, no piped water, no garbage collection and no sealed roads and people hardly made use of the facilities in Yogyakarta city. In Banyuroto 50 rural households from two hamlets were visited (49 for the analysis).

3. An international and not a local standard is used because the pattern of growth of children is universal and the Pos Yandu also uses the international one. 'Although the average weights and heights of different groups of children vary widely it is now agreed that this is due mainly to differences in health and nutritional status. Race and climate have relatively little effect on weights or heights of small children. Infants of any race, anywhere in the world, born to mothers who have had no dietary restrictions or infections or complications during pregnancy; who have been fed adequate food including breast-milk; who have been reasonably well protected from infections and given much love and stimulation, will show little if any difference in growth rate during the first few years" (Cameron, 1983: 9).

4. For weight-for-age:

90-100% of the standard weight: normal

75-90% of the standard weight: mild underweight

60-75% of the standard weight: moderate underweight

< 60% of the standard weight: severe underweight

For height-for-age: chronic malnutrition

95-100% of the standard height: normal

90-95% of the standard height: mild under-height

85-90% of the standard height: moderate under-height

< 85% of the standard height: severe underheight

For weight-for-height: acute malnutrition

90-100% of the standard weight/height: normal

80-90% of the standard weight/height: mild wasting

70-80% of the standard weight/height: moderate wasting

< 70% of the standard weight/height: severe wasting

Source: Waterlow J.C. 'Classification and definition of protein-energy malnutrition' in: WHO (1976) Nutrition in preventive medicine, Geneva, 1976: Annex 5.

5. I have used the so-called Gomez classification of malnutrition which uses different cut-off points for the mild and moderate classes than the Waterlow classification used in Indonesia. Mild malnutrition refers to weight-for age between 75 and 89 percent. Moderate malnutrition includes values between 60 and 74 percent. Severe malnutrition is defined equally in the two classifications. The Gomez is used because its closer link with morbidity and mortality risks see Martorell and Ho 1984: 54, 61.

6. Another problem in the comparison of the malnutrition data is the use of the reference. The SUSENAS uses the Harvard Standard and the author uses the new international reference "NCHS" (National Center for Health Statistics) recommended by the WHO (1983). The Harvard standard used data for white North American children of the 1940's. The NCHS reference is based on more recent data of children of the US of different race and ethnic origin. Though different, the two standards do not yield entirely different categories of malnutrition.

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