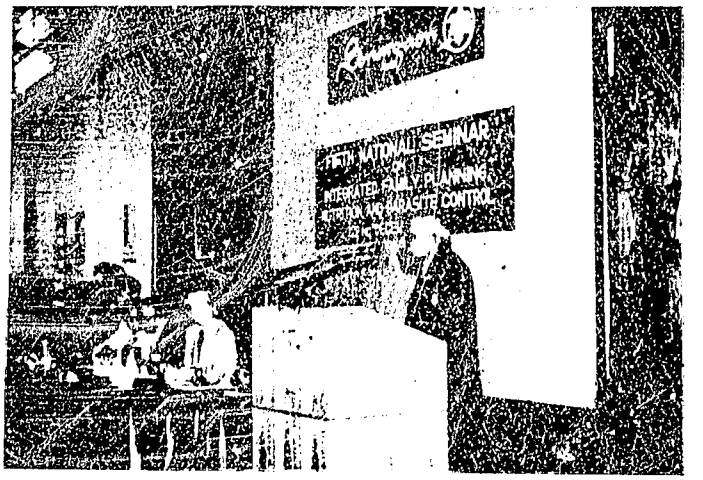
PN-AAW-119 49600

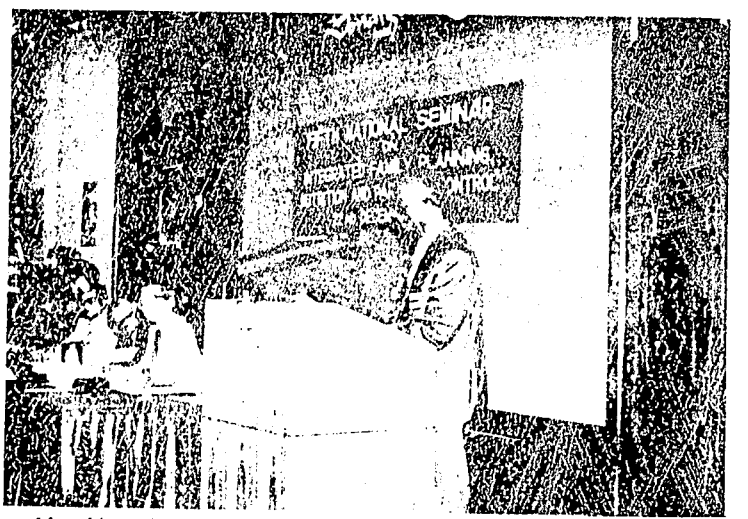
Address by Chief Guest Mr. Manzoor-ul-Karim, Additional Secretary incharge Ministry of Health and Population Control.



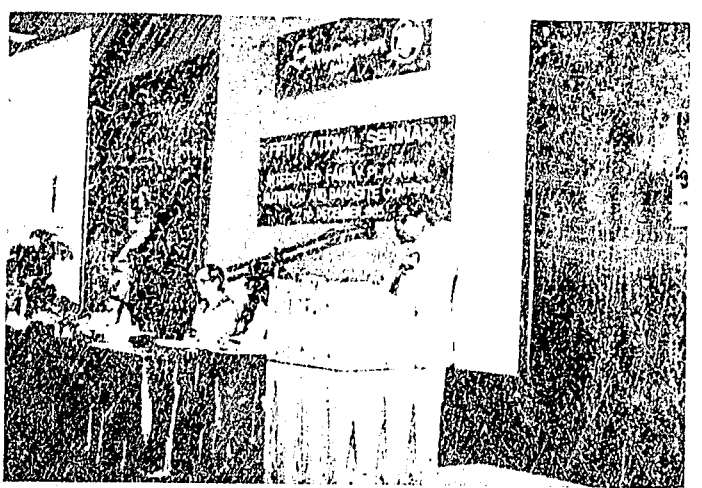
Address by Mr. Aminul Islam, Additional Secretary Population Control wing, Chairman Inaugural Session.

Congratulatory Address by H.E. Mr. Yoshitomo Tanaka, Ambassador of Japan to Bangladesh.

Col. Abdul Latif Mallik , Director General, Population Control Directorate and Member Steering Committee delivering his wel-come Address.

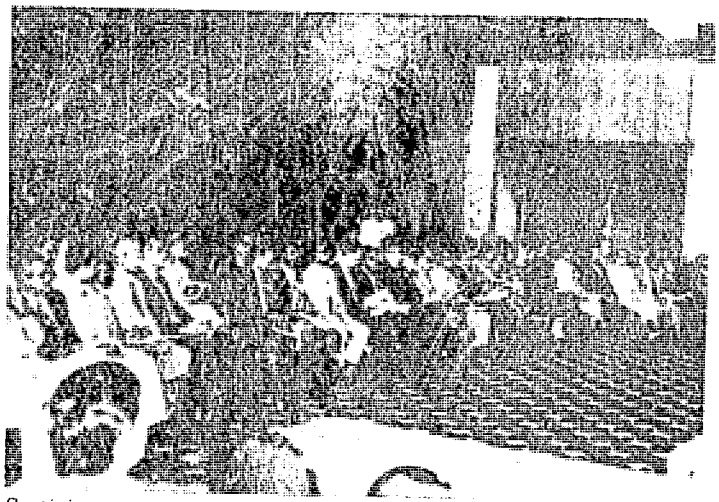


Mr. Alamgir M.A.Kabir, President Family Planning Association of Bangladesh and Member Steering Committee, delivering key note Address.



Lt. Col. Dr. Shahabuddin Ahmad (Retd.). Project Director Integrated Family Planning, Nutrition and Parasite Control Project, presenting congratulatory Message of Mr. Chojiro Kunii Executive Director, JOICFP.

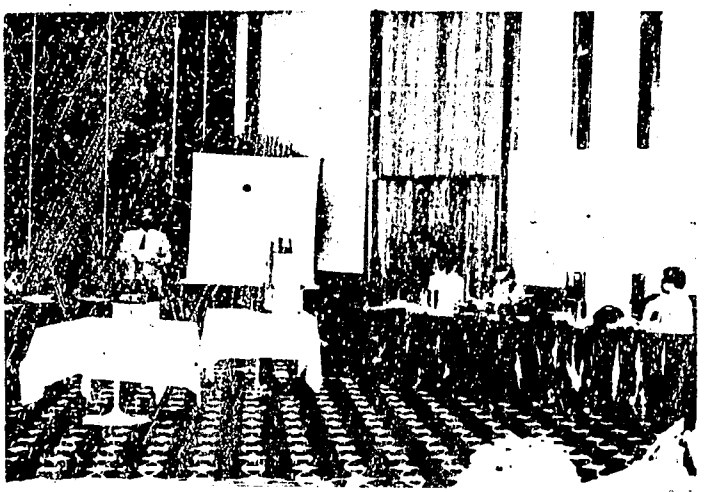
Dr. Mujibul Huq Member Steering Committee delivering his vote of thanks.



Participants in the inaugural session

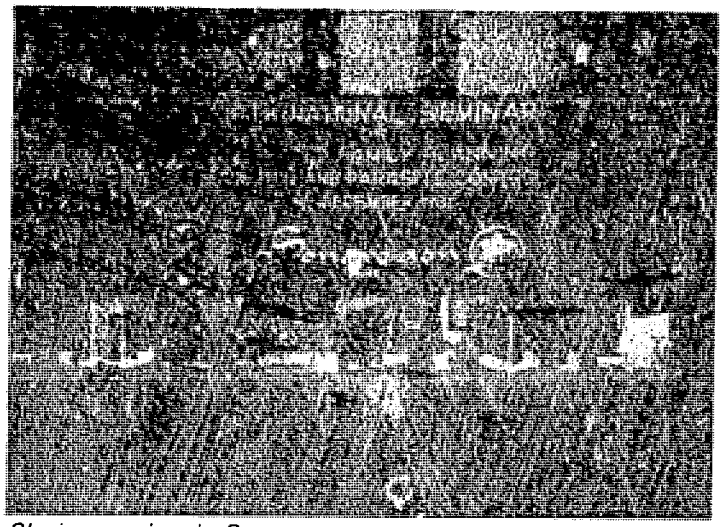
Participants in Plenary session.

Lt. Col. Dr. Shahabuddin Ahmad Project Director, presenting paper in the Plenary Session.



Prof. M.Q.K. Talukder Presenting paper in the Plenary Session

Group Discussion in Progress.



Closing session in Progress.

Participants at Panchdona Local level Seminar.

Address by chief Guest Mr. A.B.M. Ghulam Mostafa Ex-secretary Ministry of health and population control and Chairman National Steering committee at Panchdona Local Seminar.

Address by Deputy Director Family Planning Hobigonj at local level Seminar at Nayapara.

Participants at local Seminar at Nayapara.

Meeting of local Steering Committee at Nayapara Progress

EDITORIAL BOARD

SEMINAR ORGANIZING COMMITTEE

1. **Mr. Alamgir M. A. Kabir,**
   President Family Planning Association of
   Bangladesh, 2, Nayapaltan,
   Dhaka—2.

2. **Col. Abdul Latif Mallik**
   Director General,
   Population Control Directorate.

3. **Dr. A. H. M. Abdur Rahman,**
   Director,
   Institute of Public Health Nutrition,
   Mohakhali,
   Dhaka.

4. **Dr. Mujibul Haque,**
   Representative
   Bangladesh Private Medical
   Practitioners Association.

5. **M. Mustafa Jamal,**
   Deruty Secretary (Co-ord)
   Poppulation Control wing.

6. **Lt. Col. Dr. Shahabuddin Ahmad (Retd.)**
   Project Director,
   I. F. P. N. P. C. P.

NATIONAL STEERING COMMITTEE FOR THE INTEGRATED FAMILY PLANNING NUTRITION & PARASITE CONTROL PROJECT, BANGLADESH.

1. **Mr. Manzoor-ul- Karim,**
   Additional Secretary in Charge, Ministry of Health and Population Control and Chairman National Steering Committee, Bangladesh, Secretariate, Dhaka. — **Chairman**

2. **Maj. Gen. M. R. Choudhury,**
   Commandant, Armed Forces, Institute of Pathology & Transfusion, Dhaka Cantt. Dhaka. — **Member**

3. **Mr. Alamgir M. A. Kabir,**
   President, Family Planning Association of Bangladesh, 2, Nayapaltan, Dhaka-2. — ,,

4. **Prof. Kamaluddin Ahmed,**
   Director, Institute of Nutrition and Food Science, University of Dhaka, Dhaka. — ,,

5. **Col. Abdul Latif Mallik**
   Director General, Population Control Directorate, Azimpur, Dhaka. — ,,

6. **Dr. Munawara Bint A. Rahman,**
   Additional Director General of Health Services, 105/106, Motijheel C/A, Dhaka.

7. **Dr. Abdur Rahman,**
   Director Institute of Public Health Nutrition, Mohakhali, Dhaka-12. — ,,

8. **Mr. Mustafa Jamal,**
   Deputy Secretary (Co-ord.) Population Control wing, Bhavan No. 3, Bangladesh Secretariate, Dhaka. — ,,

9. **Dr. M. A. Muttalib,**
   Chairman, Community Health Research Association, 90, Bijoynagar, Dhaka. — ,,

10. **Dr. Mujibul Huq,**
    Representative, Bangladesh Private Medical Practitioners Association, House No. 32, Road No. 10/B, Block No. H, Banani, Dhaka-13. — ,,

11. **Lt. Col. Dr. Shahabuddin Ahmad (Retd.)**
    Project Director, Integrated Family Planning, Nutrition and Parasite Control Project. — **Secretary**

FORWARD

The Fifth National Seminar On Integrated Family Planning, Nutrition and Parasite Control which was successfully conducted in Dhaka December 22nd, 1985 was another milestone towards successful implementation of family planning programme.

In developing countries like ours, especially in rural areas, there is shortage of physicians. Facilities for health services are also not sufficient. Therefore, to simplify community health services as much as possible, I think that parasite control, especially the control of soil transmitted helminths, should be the first step to further health programme. Also, I consider parasite control programme, if integrated with motivation for responsible parenthood, would help the diffusion of acceptance of family planning and improvement of nutrition and environmental sanitation.

I am happy to be able to present the proceedings of this important seminar. I would like to express my sincere thanks to all who have given their attention and support for this publication and hope the following pages will be of benefit to all concerned.

(Alamgir M.A. Kabir)
Chairman,
Seminar Organising Committee.

CONTENTS

Address :

TOPIC Presentations :

Appendices :

WELCOME ADDRESS

By
COL. ABDUL LATIF MALLIK,
Director General.
Directorate of Population Control.

Mr. Manzur-ul-Karim,
Secretary, Ministry of Health and Population Control.

His Excellency,
MR. YOSHITOMO TANAKA,
Ambassador of Japan,
Distinguished Participants Ladies and Gentlemen.

It gives me great pleasure to take this opportunity to Welcome you all ladies and gentlemen to the 5th Annual Conference of the *Integrated Family Planning, Nutrition and Parasite Control* Project of Bangladesh. As you all know, this project aims at :

a. Integrating the Family Planning and the control of soil transmitted helmnthic infection in the community as an incentive and conduce factor for acceptance of Family Planning.

b. Reducing the prevalence and intensity of soil transmitted helminthic infection While increasing the nutritional status of the people.

The long term objective of the project is to reduce the incidence of parasite infection, infant morbidity and mortality rate and ensure improved health status with better environmental sanitation and nutrition through health education, intensive community participation and available service facilities.

Bangladesh, a country with a population of over 100 million with a growth rate of 2.4% annually has been striving hard to keep its population to a manageable level through multisectoral development activities.

It is now clearly understood that the magnitude of the Population problem in the country can be contained provided it is integrated with health and other multisectoral developmental activities and accordingly, the aim of the present population control programme is not only to reduce the growth rate, help fertility decline and stabilise population size consistent with the available recources of the country but also to regulate the family size as to ensure higher standard of living, improved health condition and welfare of a family. With this view in mind the MCH Services have been integrated wth the population control programme to ensure better health and welfare to mother and their children. Bangladesh is experienced with high fertility and infant mortality rate. A family is tempted to have many children when the probability of their survival is uncertain. Factors like absence of social security to the parents in their old age, death of an infant curtails lactation ammenorrhoea and preference for a son increase fertility behaviour in the country.

In these situations, integrated family planning, nutrition and parasite control project is one of the many important intervention that have been added to the total strategy of population control in the country.

Government of Bangladesh have taken three other important interventions to be implemented during the 3rd five-year plan. These interventions are :

a. Safe delivery by FWAs and TBAs.

b. 100% immunization of children and pregnant Mothers by 1988.

c. Distribution of ORS for control of Diarrhoea.

These interventions shall eventually help in reducing maternal and infant mortality rate and thus creating conducive enviroment for a small family norm in the country.

It is very encouraging to note that the project activities have brought down the prevalance of parasite infection rate to about 30% in 1985 from 90% in 1979. The contraceptive prevalance rate in the project area has been found to have risen to over 50% as compared to 25% over-all contraceptives prevaence rate in the country.

It is a great pleasure for me to announce here that overall population control programme performance has also been improved tremendously. The task before us is now to maintain the momentum we achieved so far. About 3.2 million sterilizations has been performed and during 2nd five year plan about five million births have been averted in the country through the use of different contraceptive methods.

we have introduced a cafetaria system of contraceptives to the elligible couples for facilitation of maximum choice.

Though MCH Services facilities are still in the rudimentary stage, 1160 UH & FWCs have already been constructed, 340 more are under construction, 3900 FWVs and more than 24000 TBAs have been trained up for implementation of safe delivery, immunization, and

ORS distributions. Our present objectives is to reduce growth rate to 1.8% from 2.4% by 1990 and to reach NRR-1 by the year 2000. In this financial year up to October sterilization performances was more than 70% of the target and during October performances of sterilizations was more than set target-about 103%. Performance of other methods specially IUD have also been increasing.

Integrated Family Planning, Nutrition and Parasite Control Project together with other multisectoral developmental activities will certainly augment our future plan in achieving the gigantic task. The hope for achieving the set target of the Population Control Programme is now brighter. The present need is the whole hearted co-operation and achieve support and extensive community participation for great success.

I also welcome our Secretary for his kind presence and giving us his valuable guidance and support.

I also once again welcome and thank you all the distinguished participants, ladies and gentlemen to make time to attend this seminar.

I wish the Seminar a great success.

ADDRESS BY CHIEF GUEST

MR. MANZOOR-UL-KARIM
Additional Secretary Incharge
Minister of Health and Population Control and
Chairman, National Steering Committee,
Integrated Family Planning, Nutrition and
Parasite Control Project Bangladesh,
Dhaka.

Distinguished Participants
Ladies and Gentlemen :

Assalamualaikum.

In the absence of the Hon'ble Minister for Health and Population Control I was asked to accept the chair of the chief guest this morning. I consider myself very, fortunate to be able to be here.

First of all let me welcome all the participants of this seminar, on Integrated Family Planning, Nutrition and Parasite Control, I do hope that you will find this seminar interesting as well as rewarding.

The most important problem facing us to-day is obviously over-population and the Government and people are working together to stamp out this scourge as early as possible and we have taken a vow that we will reduce the rate of growth of population to 1.8%, inshllah by 1990. The problem of overpopulation has a special significance to us and I hope, that if appropriate strategies are taken course to and new ideas in the offing to activate the programme to contain the population density at a level, success would logically the forthcoming.

It is a happy sign that our people have started to realise the necessity of accepting the "Small family Norm" and they are voluntarily responding to the population control and family planning Programme. No doubt this has been possible due to untiring efforts of the family planning workers, the health workers and intensive motivation campaign by the Government and NGO's in the recent years, while at the same time I must not forget to mention those, the workers in the co-sectors who are often extending their helping hand and co-operation.

A good deal has been said in recent years about the relationship between family planning, Population Control and other health care measure, socio-economic development and environmental problem but it is important for us, the planners and the administrators at national and International level, to recognize that these broader issues have little meaning to the individual family, particularly to the rural areas unless our concern is concentrated to remove this menace of population out burst in total co-operation with our target groups, i.e. those who are living in the rural pockets and those living as floating population in the towns and cities.

It is a pleasure to see that integration of health and population control are achieving success in eliminating the indifferences, fear or suspicion of each other as it used to be observed in the past between the health and the population people. This is a really good ausury.

I am thankful to you that you have given spacial attention to this actute problem of al-nutrition and high infant mortality among our child population. It is obvious that reduction of infant mortality rate will have better impact on population control programme which is based on mother and child health.

I convey my sincere thanks for the assistance extended by the Japanese Organisation for International Co-operation in Family Planning towards Integrated Family Planning, Nutrition and Parasite Control Project.

His excellency the Ambassador from Japan has been extremely kind to take personal interest and finding time to attend the seminar this morning.

Ladies and Gentlemen, with these words I declare open the fifth National Seminar on Integrated Family Planning Nutrition and Parasite Control. May I wish you all success in your deliberations and collaborative efforts, so that our objectives of reducing the rate of infection of soil transmitted parasite and which in the ultimate analysis would reach the objectives of achieving control of the rate of growth of Population. Let us hope as you come up with real good recommendations which we would welcome to implement.

Khuda Hafez.
Bangladesh Zindabad.

MESSAGE OF JOICFP

By
MR. CHOJIRO KUNII.
Executive Director, JOICFP.

On behalf of JOICFP I would like to send a message and congratulations to the Bangladesh Integrated Family Planning, Nutrition and Parasite Control Project.

First of all I would like to apologize for not being able to come to attend this important occasion.

Proposed in the world, in 1974, the idea of the integrated approach, utilizing parasite control as an educational tool and entry point towards Primary Health Care, has been successfully implemented and expanding into 19 countries in the world. Each project implementing country shows different multi-dimentional development, based on the country situations. However one of the most important things, that is common to each country is, that this integrated approach is surely appreciated by the people and elicits community participation in the project. In this regard, the results of Integrated Project in Bangladesh seems to be quite successful and come to the second phase in 1986.

Based on the accumulated experiences and by adding new areas, we understand that these experiences have been obtained in the limited areas as pilot basis. Therefore I hope that this National Seminar will be able to explore the possibility for the Bangladesh Government and International Organizations to extend their cooperation to the Integrated Project.

I do hope that this National Seminar brings forth fruitful discussions and practical ideas which can be applicable to the further development. Finally I would like to congratulate all the people who are working for the realization of this National Seminar and wishing you all the success.

Thank you.

CONGRATULATORY ADDRESS

By
H. E. MR. YOSHITOMO TANAKA,
Ambassador of JAPAN.

Mr. Manzoor-ul Karim, Additional Secretary-in-Charge,
Ministry of Health and Population Control,
the Chairman, Steering Committee,
Ladies and Gentlemen.

It is a great pleasure for me to be present here this morning to attend the inaugural session of the Fifth National Seminar on Integrated Family Planning, Nutrition and Parasite Control. I wish to congratulate whole heartedly the organisers and the participants to the seminar to express my sincere thanks for inviting me to to-day's ceremony, and would like to speak a few words on this auspicious occasion.

I understand that the Integrated Family Planning, Nutrition and Parasite Control Projects was started in Bangladesh in the year 1979 with the co-operation of the Japanese organisation for International Cooperation in Family Planning (JOICFP) and it has stepped in the sixth year of its operation. I am happy to learn about the encouraging progress of the project and its achievements towards providing the concept that the people's reaction to the Family Planning Programme becomes more responsive and acceptable when the Programme is integrated with other potential partners relating to health and development which are essential to improve the socio-economic conditions of an individual and the country.

Today it is universally admitted and accepted that the solution of a nation's population problem must be an integral part of its overall national startegy and therefore it is extremely important to have effective integration of population and development policies.

Recently the Government of Bangladesh has announced the Third Five Year Plan where, in the Family Planning Programme, a target has been fixed to reduce the current birth rate of 2.4% to 1.8% by the year 1990. It would be extremely difficult to achieve such targetted percentage of birth rate, if comprehensive and Integrated Family Planning programmes

were not adopted. More distribution of contraceptives and other related materials will not be sufficient to achieve the target, unless such activities like the Integrated Family Planning, Nutrition and parasite control projects are strengthened and geared up. I have noticed that the Government of Bangladesh is well-aware of this aspect and making all out efforts to improve, for instance, the maternal and child health services as an integral part of strategy to attain the fertility control. I must therefore congratulate the authorities concerned for taking up this Integrated Family Planning, Nutrition and Parasite Control Project as a right approach to the problem.

On our part, I am prepared to make my utmost efforts to support the Family Planning and Population Control Project to solve this gigantic problem in this country.

In concluding my remarks, I hope this Fifth National Seminar will come out with useful and important recommendations by the enlightened participants and throw more lights on the effectiveness of the integrated project and look forward with keen interest the progress of such activities in the future.

Thanking you.

KEY NOTE ADDRESS

By
MR. ALAMGIR M. A. KABIR,
Member, Steering Committee,
Integrated Family Planning Nutrition and Parasite Control Project.

Hon'ble Chief Guest,
Chairman of the Session,
Distinguished Guests, Participants,
Ladies and Gentlemen.

It is my privilege to say a few words at this Inaugural Session on the Fifth National Seminar on "Integrated Family Planning, Nutrition and Parasite Control."

You are all aware that Bangladesh has embarked on a massive Population Control and Family Planning Programme all over the country to deal with the nation's No. 1 problem– Populaion Explosion, which is impeding the progress of our national developement efforts. The concept of integration of health and development component with the population control and family planning programme is being increasingly accepted by family promoters through out the world, because the integrated approach is found to be more effective, useful and acceptable in promotion of family planning.

As we know, people's reaction to the family planning programme becomes more responsive and acceptable, when it is integrated with family welfare, something beneficial and fundamental to the need, desire and expectation of the people. Parasite control and nutrition are considered as potential partners of integration with family planning not only for the reasons that these are simple, do not require a great deal of equipment, investment and sophisticated technology but also can create the credibility and confidence of eligible couples with visible result. Besides, parasite control as an entry point can be used as conducive factor for acceptance of family planning.

The Integrated Family Planning, Nutrition and Parasite Control Project was initiated in Bangladesh in mid 1979 with the assistance of Japanese Organisation for International

Co-operation in Family Planning (JOICFP), as they have generously done in many other countries with the specific objectives of :—

(a) Integrating the family planning and the control of soil transmitted Helminthic infection in the community as an incentive and conducive factor for acceptance of family planning and reducing the prevalence and intensity of soil transmitted Helminthic infection while increasing the Natitional standard of the people.

The long term objective of the project is to reduce the incidence of parasite infection, infant morbidity and mortality rate and ensure improved health status with better environmental sanitation and nutrition through health education and facilities.

To attain the objectives indicated above, the Project was taken up in the following four areas, having the existing population control programme, one in each Division, on experimental basis :

(i) Naldanga Union, Gaibandha District, Rajshahi Division.

(ii) Panchdona Union, Narsinghdi District, Dhaka Division.

(iii) Boyra ward, Khulna Pourshava, Khulna Division.

(iv) Nayapara Union, Habigonj District, Chittagong Division.

The population coverage under this project is around 73,000 in total.

The project is now in the sixth year of its operation. Although initially the project could not make a headway in reducing parasite infestation, but a remarkable improvement has been observed after launching of the mass treatment programme in 1982. Parasite infestation rate in the four areas in 1979 was around 90% and by the middle of June, 1985 it has been reduced to 38.14% at Naldanga, 58.25% at Panchdona, 54.94% at Boyra and 42.86% at Nayapara. Stool examination and treatment to positive cases of infestation are continuing feature of the project. Similarly a marked progress has been observed in the rate of acceptance of family planning. The number of acceptors of family planning at present in project areas is 68.96% at Naldanga, 58.18% at Panchdona, 49.63% at Boyra and 47.25% at Nayapara. The rate of acceptance, on average, is around 56.32% in the project areas which is more than double of the national rate of contraceptive prevalence. During this year, the field workers of the project areas and adjacent Unions were given intensive training. Health education and environmental sanitation have been stengthened in cooperation with local Steering Committees and community leaders. About 300 sanitary latrines have been built by the project with local participation. Thus, the achievement of this pilot integrated project encourages us for expansion of programme activities and its possible reflection in the national programme.

The first National Seminar on the Project was held in October, 1981 and participated by 65 eminent physicians, parasitologists, nutritionists and programme managers. To-day,

concluding one of the series of Seminars arranged in each of the project areas during 1985 by the local Steering Committees. These Seminars in rural project areas were organised to involve the community at large with the project activities as well as to enhance the participation of the beneficiaries in the project.

The following observations/recommendations of these local level Seminars indicate that the project activities have encouraged the people of the project areas.

(a) People from the different walks of life actively participated in the Seminars, expressed their views and recommendations in favour of the continuation of the project.

(b) The recommendations of all seminars were in favour of the expansion of project area and activity.

(c) Besides the Chairman and Members of the Local Steering Committees, teachers, U.P. Members, community influentials and opinion leaders were found to be deeply interested in the projects for which, it appears, that the rate of parasite infectionhas been reduced remarkably and the acceptance rate of family planning increased to double of the national level.

(d) As the first organised parasite control activity in the country, the project has drawn the attention of the local people not only in terms of parasite control but also in view of its innovative approach to family planning and environmental sanitation activities leading to primary health care.

Ladies and gentlemen, you will be pleased to know that inspite of the budgetary constraints the National Steering Committee has decided to expand the programme in three more new areas from 1986. It is also felt that the time has come to think about the improvement of health of the students of Primary Schools. Taking the Parasite treatment as an entry point, Integrated Parasite Control Project, being pioneer in this field, will start a pilot project in Dhaka city. With the generous assistance from JOICFP, the project has already completed its feasibility survey and got an encouraging and positive response.

But it needs the help and cooperation of Ministry of Health and Population Control and the Ministry of Education. The National Steering Committee firmly believes that it will get all the necessary co-operation and assistance from the authorities and the school Health Programme will be launched in early part of 1986.

I hope and believe that this National Seminar will also come out with useful recommendations and throw more light on the usefulness of such integrated projects to contribute towards the success of the national programme of the Government on Population Control and Family Planning.

ADDRESS BY THE CHAIRMAN OF THE INAUGURAL SESSION

By
MR. AMINUL ISLAM
Addln. Secretary, Population Control Wing.

Ambassador Mr. Tanaka,
Col. Shahabuddin, Col. Mallik, Mr. Alamgir Kabir,
Distinguished Guest,
Ladies and Gentlemen.

First of all I must thank you all for giving me this opportunity to be with you this morning. Orginally I intended to join this seminar just as a onlooker. I did not know that I have to occupy the chair of the Chairman as a sort of contingency arrangement in absence of secretary and also the Minister. But I must tell you this auspicious event have been rather a good education for me. I have been involved in the Ministry exclusively in the population side for the last six seven months and you know every day we are declaring from our roof-top that population is our No. 1 problem, but very few of us realise the terrible consequence that are just before us as a result of tremendous surge of the population growth. Even assuming that the government programme will be about 100% successful we are going to have 130 million population by the end of this century. Because you all know that half of the population is below 15 years of age the number of reproductive couples giving birth to children will go up by the year 2,000 and even with NRR 1 i.e. 2 children norm the absolute growth of population will continue and it may continue probably for another 40-50 years and we may have a population of 200 million by the year 2040-2050. This is indeed really a grim picture particularly when we consider the number of landless labourers, so much malnutrition and so much poverty in this country. You know that the population problem covers two areas, one is the medical side another is the socio-economic side. We have since 1965 tried to push family planning as a sort of independant programme but as you know that by 1970 we found that only 3% to 4% percent really responded to this programme. Then new approach gradually brought the MCH component. We cannot cover all aspects of MCH because of lack of resources. We selected certain selected areas like control of certain disease which can be prevented

through immunization and also prevention of diarrhoea. This intervention leading to primary health care and MCH would be able to make family planning more acceptable to the couple. Now hearing the speaches of my predecessors I have been really impressed by the figure as you see the contraceptive prevelence rate in Noldanga is 68.96%, Panchdona 58.18% in Boyra 49.68% and Nayapara 47.25%. If this figure are true or nearly correct it is almost a breakthrough because we have been trying hard to reach 40% CPR possibly by 1990. If we can reach 60 to 65% by the year 2000 we shall be reaching the goal of NRR 1. So if this project areas come up with ideas which can give us some clue it will be a real achievement. The time which is available to us is very short, it is now 1986 and the year 2000 is just 14 years ahead and we are really in a serious problem. If this experimental project could show us something which can show the quickest method of just bringing down the growth of population this could be a tremendous achievement. I suggest that experimental project should try to cover more areas and this could be meaningful support for the government workers.

As you understand this seminar is a national seminar which is being conveyedafter regional seminars, I hope that this seminar will give us very important re-commendations which can be very seriously considered by the Government and I hope that all of you who are participating in this seminar will contribute your best effort, and we in the Government will be benefited by your deliberations.

In conclusion I must thank the JOICFP for the generous assistance they provided and are going to provide for this project as this is a very important area. I hope the Government of Japan will continue the generous assistance all the time and that this project will be really helpful to the country in future. I must thank all of you for coming to this seminar and I hope that your deliberations will be highly fruitful.

VOTE OF THANKS

By
Dr. MUJIBUL HUQ
Member, Steering Committee.

Hon'ble Chief Guest
Mr. Chairman
Learned Participants,
Distinguished Guests,
Ladies and Gentlemen.

On behalf of the Organising Committee and the Steering Committee of the Integrated Project, I would, like to thank Mr. Manzoor-ul-Karim, Additional Secretary in Charge, Ministry of Health and Population Control and also Chairman Steering Committes for the Integrated Family Planning, Nutrition and Parasite Control Project of Bangladesh, for taking the trouble of gracing the occassion by his kind presence inspite of his busy schedule.

I offer my heart felt thanks to JOICFP leaders without whose assistance, close co-operation and sincere wishes, the desired progress could have been achieved.

I would also like to extend my thanks to the participants and to those learned chair persons who will take all the trouble to conduct the seminar.

I offer my thank to those who have taken all pains to organise this seminar of National importance.

I like to thank our respectable guests, ladies and Gentelmen for their gracious presence.

I also extend my thanks to the members of news media Radio and T.V. and other information media for their kind presence and sparing some valuable time with us.

I thank you all ladies and gentle men once again.

Khoda Hafez.

SUMMARY OF PROCEEDINGS

INAUGURAL SESSION

The inaugural session was followed by a scientific session which was subdivided into three plenary sessions. The first two plenary sessions had five papers each and each session had detailed discussions after the papers were presented. The third session began after luncheon interval and consisted of group discussions amongst three groups. The three groups presented their recommendations in the closing session which had a common theme "Involvement of Community in Integrated Health Project."

THE FIRST PLENARY SESSION

Chairman : Maj. Gen. M. R. Choudhury
Rapporteur : Dr. Mamunar Rashid

Five papers were presented followed by discussion amongst the participants. The papers were 1. Integrated Parasite Control Project in Bangladesh by Lt. Col. Dr. Shahabuddin Ahmed (Retd.) ; 2. Parasitic Infestations in the Dead by Prof. A. K. M. Aftabuddin ; 3. Study of Seasonal Variation and Degree of Infection and its Impact on Nutritional Status in a Semi-urban population of Dattapara, Dhaka by Dr. A. H. M. Abdur Rahman and Dr. Md. Qumrul Jalil ; 4. Prospect of Integrated Family Planning, Nutrition and Parasite Control Project in Bangladesh by Mr. Abul Hashem ; and 5. Community's Perception of Voluntary Sterilization as a permanent method of family planning in Bangladesh by Col. Dr. M. Hashmat Ali.

Paper— I :

This was a key note paper reflecting the success of the Integrated programme in the 4 selected pilot project areas of Panchdona, Noldanga, Boyra and Nayapara Unions, selected in four 'divisions' of the country. The success leads one to believe that family planning programme becomes more effective and acceptable when it is integrated with other potential partners like nutrition and parasite control, related to health and development. Family planning acceptance in all the four project areas is now much higher than before and is well above the target set by national programmes.

The parasitic infection rate has also dramatically gone down and the credibility of the family planning field workers has considerably increased after the integration of family planning activities with deworming, EPI and ORS programme. People's awareness and participation can clearly be felt with the formation of local steering committees, local volunteers, enquiry about parasite treatment, immunization, increased demand for sanitary latrines from project office etc.

The steering committee has decided to man the present project areas with a small supporting unit after completion of six years and to extend the project activities to three new unions.

Paper— II :

An interesting paper was presented on parasitic infestation in the dead. A search for parasites were done amongst those dead (both from disease and from medico-legal causes) in Mymensingh Medical College Hospital. Ascaris lumbricoides were detected in the deceased in Conformity with the published reports on the incidence of A. L. infestations in the community. Surprisingly no hookworm or any other parasite was seen in the intestines of the deceased.

Paper— III :

This paper was about a study on degree of parasitic infection and its variation with season and nutritional status. It was carried out in Dattapara, Dhaka. It finds that reinfection after deworming is highest soon after the rainy season and the rate of anaemia was higher among the younger age groups. There was difference of urinary iodine excretion amongst the people originating from non-endemic areas and those from goitre hyper endemic areas. A better understanding of seasonal variation will help us to combat parasite control programme in a more effective way.

Paper— IV :

The fourth paper presented looked into the project of integrated control project in Bangladesh. This programme has been successful in 12 countries and the four pilot project areas in Bangladesh have been equally promising. The paper analyses the present health infrastructure available in the country and points out that they can be utilized to find out entry points to involve the community for better health package delivery.

Paper— V :

The last paper presented in the first plenary session tried to find out if voluntary sterilization was acceptable to the Muslims. The sample consisted of sterilized males and females and they represented the national ratio of Muslims and non-muslims. Contrary to expectations, it was seen in the study that sterilization as a means of voluntary contraception measure was well accepted in the Muslim community.

DISCUSSION :

The following questions, comments and answers were exchanged in the question -answer session :

Paper— I :

Q. What precaution was taken to prevent reinfection ?
A. Providing of tube wells and pit latrines etc. in addition to health education. 200 sanitary latrines have been distributed in each project area.
Q. How community participation was organized ?
A. By involving school teachers, volunteers, local leaders.
Q. Are you satisfied with the community participation ?
A. Volunteers are not that sincere but the policy is worth trying.

Comment : You can achieve success in participation when community members themselves are involved.

Paper— II :

Comment : This paper throws light on the importance of postmortem examination of the deceased. Doctors should try to impress upon the relatives of the deceased about its importance and try to obtain their cooperation in performing the same.

Paper— III :

Dr. Muttalib pointed out that the seasonal variations found in Dr. Abdur Rahman's study was not in line with his own finding.

A. Ascariasis is primarily a soil contaminated disease and takes six weeks for reinfection to occur. It is therefore only natural that reinfection will be higher after the rainy season.
Q. How needles are sterilized in the field study ?
A. Disposable syringes were used.
Q. How many slides were re-examined ?
A. 10% of negative slides.

Paper— IV :

Q. Why Government programmes had a lower success rate so far as the parasite control is concerned ?
A. In all probability lack of proper supervision. Secondly Government programmes are usually taken on a large scale instead of one or two selected areas and are usually long term programmes.
Q. With which figures were your findings compared ?
A. With the findings presented in the 4th National Seminar of the Integrated Project, 1984.

Paper—V :

Comment: Islam is a very scientific religion. It is very dynamic and progressive and it cannot be accepted that contraceptive procedures are incompatible with Islam. Dialogues and discussions must be held between scientists and religious leaders.

Chairman's Concluding Remarks :

Major General M. R. Choudhury summed up the session by saying that the health problems we are facing are interdependant and no single effort can bring relief to the teeming millions. He placed particular emphasis on the triangle of infection, malnutrition and over population.

Bangladesh is a disaster prone country. About half of its able population is unmarried. When this population reaches the marriagable age, the situation will become more problematical. It is heartening to note from a paper presented this morning that people particularly Muslims (who comparise 86% of the population) are accepting family planning methods more and more. On the other hand each disaster has profound adverse effects on health policies. Regarding postmortem examination, the Chairman pointd out that regrettably this is not routinely carried out. One must remember that the maxzim "Dead men tell no tales" is wrong

THE SECOND PLENARY SESSION

Chairman : Prof. Golam Moazzem
Rapporteur : Dr. Mamunar Rashid

Like the first plenary session, this session also consisted of presentation of five scientific papers followed by discussion amongst the participants. The papers were : (1) Community Participation in Primary Health Care—"An Experiment in Comilla' by Mr. Md. Abdul Quddus ; (2) Improvement of Nutrition in Rural Bangladesh by Mr. Md. Abdul Mannan ; (3) A Hope for Child Survival : Growth Monitoring of Children in Bangladesh by Dr. M. Q. K. Talukdar ; (4) Malnutrition and Childhood Blindness by Prof. M. H. Rahman ; and (5) Prevalence of Anaemia in Infants of a Previleged Community by Dr. Muttalib, Waheed and Collin.

Paper— I :

This paper pointed out some successful health programmes in several countries. The common and all important factor for their success was the community participation through integration of health activities with the activities of economically viable community organisations, through developing their own trained health workers, through local supervision etc. The author points out the success of integrating community participation with health activities at the village level cooperatives in Comilla.

Paper— II :

The paper reviews the existing nutritional situation in Bangladesh and suggests that to popularize family planning in the country, we should have to give guarantee to the couple for a well nourished child surviving. This will lower child wastage and give confidence to couples in accepting family planning methods. It was further stressed that for better nutrition of the people, the nutrition policy and programmes for Bangladesh formulated by the National Nutrition Council be implemented on a priority basis.

Paper— III :

The paper mentions that 7 babies are born every minute. The food supply and consumption have gone down but IMR have remained steady. With no forseeable economic break through in the near future, the four simple and inexpensive tools for lowering the incidence of malnutrition, morbidity and mortality as suggested by UNICEF and popularly known by its acronym GOBI seems like a silver linning on the cloud. The paper deals with growth monitoring, the growth chart developed by the NNC and the weighing scale developed by NNC and produced by BCSIR at a suggested price of Taka 300/- only. These scales and charts are to be field tested over a period of one year in 8 selected areas.

Paper— IV :

Complicating the nutrition situation is the wide spread nutritional blindness and vitamin 'A' deficiency cases in Bangladesh. An estimated 90 children are becoming blind every day in Bangladesh which is definitely preventable. The situation is worse amongst the pre-school children, particularly amongst those suffering from PEM. In conclusion it is said that the supply of vitamin 'A' alone may not have the desired impact till an over all improvement of the nutritional status of the target children is achieved.

Paper— V :

The concluding paper drew doubts about the reliability of high anaemia incidence reports based on Sahli's haemoglobinometer (commonly used in Bangladesh) which usually gives a much lower reading. The author regularly standardized with cyanmeth haemolglobin method.

In a study on children from a upper strata group, the PCV method was used and this co-related better with the cyanmeth haemoglobin method.

DISCUSSION :

The following questions, answers and comments ensueed the presentation of papers in the 2nd plenary session :

Paper—I

Comment : Unless people change their habits, no amount of tubewells is going to change the situation. In china, it is not the bare foot doctors alone but the total delivery system which has contributed to the improvement of the health situation.

Comment : From personal experience in Comilla and Chandpur it was seen that the high mineral content of tubewell water was acting as a deterrent to its acceptance. Water seal latrines were also having problems.

Comment : Suggested changes are not being backed by strong and sustained health education. When people use it only then there is community participation. The author answers to these comments by agreeing with the concept of bare foot doctors being a part of the total health delivery system. Studies are to be conducted in mineral contents of tubewell water. It was further suggested that nothing should be given free to consumers as that deprived the person of a feeling of ownership and thereby does not prompt him to take necessary care for his belongings.

Paper—II :

Comment : In char areas, tubewells have been introduced. Flood control programmes have been under taken. These measures have possibly raised the incidence of endemic goitre which is now posing a problem.

Paper—III :

Q. The health card may create awareness but how do you involve the mother ?
A. Use of growth charts does involve the mother and the community. Mother communicates with the health worker every month when the child is weighed. The card also takes note of the mother's health because the nutrition of the mother is equally important.

Comment : Logistic support to growth monitoring is very important to waive ill feelings.

Paper—IV :

Q. Why there are so many councils ?
A. Nutrition deserves a multidisciplinary approach. This also reflects the emerging awareness amongst many groups. However, if all groups are gradually merged it is O.K.

Q. The NCHS standard selected for the development of the growth may not be appropriate for Bangladesh.

A. This is a long and much debated issue and is beyond the scope of this seminar. However, it has been decided that the experts to continue using this till a National standard is developed.

Paper—V :

Comment : Cyanmethaemoglobin method is recommended by the WHO. However, this is difficult in the field situation. Colorimetric studies are only possible in institutionalized studies.

CHAIRMAN'S CONCLUDING REMARKS :

The chairman concluded the session by commenting on each individual paper. He stresed on public health education which is to be considered as important. Wide scale studies should be taken on iodine deficiency diseases and scientific talk should be given on radio and T.V. The introduction of health card is long over due and weighing machines should be improvised.

Automation of laboratories is not affordable and comparative studies are essential.

THE THIRD PLENARY SESSION :

The third plenary session was for twohours. The participants were grouped into three and they all had a common theme to discuss and come up with recommendations. The theme selected was 'Involvement of Community in Integrated Health Project."

CLOSING SESSION :

Chairman : Col. Abdul Latif Mallik

Repporteur : Dr. Mamunar Rashid

The rounding up session saw the presentation of the recommendations put forward by the three groups : Gr. A, Gr. B, Gr. C.

DISCUSSION :

The part consisted mainly of comments by various participants on the recommendations put forward.

Prof. Talukdar : certain components will have to come as a package. Excessive importance seems to have been given on deworming. What should be the specific ways and means have not been mentioned.

—Mr. Rafiquzzaman : (Q) In project area whether parasite control should be raised to 100% or see the effect of withdrawal of project from area. (A) 100% eradication is not possible. Project should be sustained by community participation after withdrawal.

— Mr. Quddus : There are two aspects in the recommendations : (a) the package of integrated programmes and (b) community participation for sustainnence. Income generating programmes are important to start as penetrating points for involvement of the community.

—Prof. Solaiman : If many supervisors go to project areas and stay there, the people may lose interest. NGO's with field experience may be invited in future so that they can convey their experiences.

—Prof. M.H. Rahman : A task force should be formed to pursue the recommendations.

—Dr. Abdur Rahman : The Steering Committee can also pursue implementation of the recommendations.

—Dr. Azizur Rahman :,Mr. Chairman, you should have a committee in your Directorate (Population Control) to look into the recommendations.

Chairman's concluding remarks :

By incorporating all recommendations and editing them, we will be presenting the proceedings of today's deliverations. Lastly the Chairman said that success of integrated project in four project areas should act as incentive to expand the work in other areas.

Recommendations :

1. Attempts should be made to establish income generating projects so that in due course of time the organisation can be self sustaining.

2. Projects should incorporate primary health care facilities.

3. Local personnel should be involved in the project management.

4. Senior Government officials of health deptt should extend activie support for the smooth and efficient functioning of the project.

5. Such projects should be further expanded and unhampered progress ensured.

6. Statistically controlled evaluation of the projects should be carried out at approriate points of time and the findings reported.

7. Steps should be taken so that all the previous recommendations are implemented.

TOPIC PRESENTATIONS

INTEGRATED FAMILY PLANNING, NUTRITION AND PARASITE CONTROL PROJECT IN BANGLADESH.

By
Lt COL. DR. SHAHABUDDIN AHMAD
Project Director,
and
MR. ABUL HASSAN
Research Officer.
IFPNPCP.

INTRODUCTION :

Bangladesh with a estimated,population of more than 96 million, and with a density of 956 persons per square kilometer ranks as the fith most populous nation in Asia. The socio-economic condition of the country is such that it cannot provide complementary support for a rapid decline in fertility. Despite the best effort of the Government to arrest the flow of populations growth, Bangladesh is still having a high population growth rate of 2.4%.

Illiteracy, poverty and superistition are some of the major constrains in effecting a rapid decline in fertility rate. Government considering the diversified problem has launched a CH based family planning programme. Integrated Family Planning, Nutrition and Para-CH based family planning programme. Integrated Family Planning, Nutrition and Parasite Control Project is one such innovative programme launched with technical and financial assistance of Japanese Organisation For International Cooperation in Family Planning (JOICFP).

The Integrated Family Planning, Nutrition and Parasite Control Project operating for the last six years has achieved a tremendous success in fertility decline and in reduction in Parasite infection. The contraceptive prevelence rate in the project area is about 56%against the national average of 24%and parasite infection have been reduced from 85%to 47%.

The achievement and success of this project has proved the concept that the peoples reaction towards family Planning Programme becomes more responsive and acceptable when it is integrated with other potential partners relating to health and development.

2. PROJECT AREAS :

The project areas are situated in four geographical areas in four Divisions of the Country as follows.

2.1. Panchdona Union : Norsingndi District, Dhaka Division.

2.2. Noldanga Union : Sadullapur Upa-Zilla, Gaibandha District, Rajshahi Division.

2.3. Boyra Ward : In the subrub of Khulna city, Khulna Division.

2.4. Nayapara Union : Madhabpur Upa-Zilla, Hobigonj District, Chittagong Division.

3. POPULATION COVERAGE:

The total Population coverage is about 73,184.

AREA	POPULATION	COUPLE
Noldanga	19,120	3,157
Panchdona	17,967	2,843
Boyra	18,867	2,732
Nayapara	17,230	2,969
	73,184	11,701

4. SERVICE DELIVERY:

4.1. The Project is being implemented through the field workers of population control directorate at the field level, under the control and supervision of Upazilla Family Planning Officer, in three Project areas. One Project area is being implemented in collaboration with Family Planning Association, Bangladesh.

4.2. Both family planning and parasite Control services are systematically delivered to the community through home visit. Intensive family planning motivation to eligible couples were also conducted. At the same time, non clinical contraceptives are distributed by the team to the target couples, while those who needed medical and clinical services such as examination, sterilization, I.U.D. insertion etc. were reffered to the clinic.

5. PLAN OF OPERATION:

Deworming of children between the age 1-12 years are being carried out in bi-yearly basis in all the four project areas. After each round of deworming a sample survey by collecting stool of 30% of the treated children are being carried out to asses the Parasite prevelance rate. Height and weight of children are also being noted during the time of stool collection, to monitor level of Nutrition.

Deworming programme are being carried out by four teams, in each Project area. The team comprises of two members. The team members being Laboratory Technician, Laboratory Assistant, Family Welfare visitor (female paramedics), Family Planning Assistant (Male supervisor) Family Welfare Assistant (Female Field workers) and Dais.

During sample survey three teams work in field in each Project area and the team member consists of one FWA (Family Welfare Assistant) and one Dai.

Mebendazole (100 mg. tablets) in a single dose, is administrated for deworming. The dose being 3 tablets for children upto 1-12 years and 4 tablets for persons above 12 years.

Provision has also been set up to supply anthelmentics to persons above 12 years from the Project Office at subsidised rate.

6. PROGRAMME ACHIEVEMENT :

6.1. Family Planning :

Family Planning acceptance in all the four Project areas is now well above the targets set by national programme. The family planning acceptance rate being :

Project Area :	Base line%	Present Acceptance%
Noldanga	35.50	69.00
Panchdona	17.29	58.17
Boyra	23.46	49.63
Nayapara	19.08	47.25

6.2. Parasite Control :

The reduction in Parasite Prevalance has also improved. The reduction being :

Project Area	**Base Line%**	**Jan-June : % 1985**
Noldanga	93.16	38.14
Panchdona	88.90	58.25
Boyra	90.94	54.95
Nayapara	90.69	42.86

6.3. Mass- Treatment :

During this year selective treatment were provided to children between age 1-12 years.

The coverage being :

Project Area :	Jan-March 1985	Covered %
Noldanga	6,884	90.20
Panchdona	5,224	86.95
Boyra	5,163	70.93
Nayapara	4,785	82.0
	22,056	82.44

7. RECENT DEVELOPMENTS :

7.1. Community Participation :

Much emphasis are given to community involvement. The local Steering Committee which comprises of local influential people, local union council Chairman, and members, teachers, doctors, religious-leaders are found to be very eager to cooperate with Project activities. They have undertaken a programme to assist the field workers and also to motivate in their community about the advantage of family planning, nutrition and environmental sanitation.

The local volunteers are also found to assist the field workers during their field visit and also motivating their community on Family Planning, Nutrition and Parasite Control.

7.2. People awareness :

The people are now found to be very much aware of the ill effect of Parasite on their children and they now are found to be eagerly enquiring about parasite treatment.

People awareness are also proved by increase number of demand of sanitary latrine from our Project Office. People now feels the advantage of defecating in a particular place.

E.P.I. and ORS programme is gaining popularity in the Project and people response is also encouraging. During discussion with community it is found that people are very much eager to get their children and pregnant-mothers innoculated.

7.3. Credibility of field workers :

The integration of parasite control, E.P.I. and O.R.S. Programme along with family planning activities have greatly augmented the role of family planning field workers. They now work in the field as multiferous worker, as the programme is related with welfare of children and mothers. So the communtiy people now feels the importance of activities of family planning field workers. They now seeks the advice of this workers not only in health and family planning but also in other personal matter of mutual interest. They now designated the field workers as doctors and before going to doctors or Government dispensaries they at first seeks the advice of field workers or comes to the Project office for treatment.

7.4. Environmental Sanitation activities :

The local community leaders are now covinced that without improvement of environmental sanitation it will not be at all possible to stop parasite reinfection. They have chalked out a programme to motivate people to defecate in a particular place by making at least a dugout pit-latrine.

In three project areas provision has been made to supply sanitary latrine at subsidised rate and construction of sanitary latrine locally, is now in progress.

7.5. Interesting Episode :

The Project has very recently started constructions of sanitary latrine locally in the Project area with assistance from Public Health Engineering Department and has embarked on a plan to supply 200 sets of sanitary latrine in each Project area at a subsidised rate of Taka 300/- per set.

In Panchdona Project area, local Government official has allotated land for our Project and handed it over to us. Very shortly Project office will be shifted to its own land and an immediate programme, to start income generating activites, will be started.

8. SCHOOL PROGRAMME :

More attention is now given to introduce Parasite Control Programme in primary schools out side the Project area. In this programme more than 16 schools have been undertaken for this programme.

The school children are not only provided with stool examination and treatment on parasite but also given knowledge on Parasite Control, Environmental Sanitation, personal hygiene and Nutrition. Further the children are motivated to construct at least a dugout pits for defecating.

School teachers are being provided with knowledge of Parasite Control, Environmental Sanitation and Nutrition and they are being supplied with necessary booklets and posters.

9. SUMMARY :

The Project whose field activities has started since the beginning of 1980 has now completed its $5\frac{1}{2}$ years of field operation. During this reporting period 22,056 children between the age group 1-12 years were provided with anthelmentics, the coverage being 82.44%. The average Parasite prevalence rate is found to be 47.96%. From the report it is observed that Ascaris is the most predominant Parasite followed by Trichuris trichuria.

The overall Family Planning performance during this period is quite satisfactory. The contraceptive prevalence rate now stands at 56%.

The overall E.P.I. performance is showing that people are gradually feeling the importance of innoculation and vaccination.

The performance on O.R.S. has also been encouraging and 1,550 packets of O.R.S, were supplied to 769 persons and the cure rate were 96.62%.

10. CONCLUSION :

The outcome of the Project has been able to fulfil its main objective. The contraceptive prevalence rate is now about 56%. The overall improvement of the health status in the Project area may be measured by the improvement of differerent demographic indications.

	Base line				Present			
Project Areas	CBR /1000	CDR /1000	IMR /1000	TFR%	CBR /1000	CDR /1000	IMR /1000	TFR%
Panchdona	54	11	75.1	7.5	33.64	13.10	89.9	6.1
Noldanga	27	8	198.1	5.8	13.72	6.80	106.1	2.05
Boyra	37	13	278.6	5.9	5.87	2.36	112.1	0.75
Nayapara	45.9	135	182.9	7.95	10.61	4.57	132.6	1.35
National Level					36.0	12.3	117.5	5.07

The Integrated approach of Parasite Control with Family Planning has proved to be an appropriate partner of integration, since these are simple, deeply related to people, their effects are immediate and visible and do not require great deal of investment and technology. It has an advantage of creating credibility and confidence of parents by offering Parasite Control and Nutrition service as incentives. Besides Parasite Control has relevence to all

members of a family and can arouse the interest of the whole community, generate awareness towards personal hygiene and environmental sanitation and helps fertility control. The introduction of E.P.I. and ORS Programme with the on going programme has also greatly enhanced the credibility of field workers and the Project office has gain the popularity as health post.

12. FUTURE THOUGHTS OF THE PROJECT :

The deliberation from chief guest and Chairman of the inaugural session of National Seminar of Integrated Project shows the growing importance of the Integrated Project. The recommendation of the National Seminar also acknowledged the importance of Integrated Project.

The Steering Committee has decided to tap different fundgiving agencies for expansion of the Project and also decided to disperse the knowledge of Parasite Control. In this regard they have decided to request Director General, Population Control Directorate to include Parasite Control in carriculam of the "Inservice training" of Family Welfare Visitor, and Family Planning Assistant and also to include Parasite Control in their National Family Planning programme.

The Steering Committee has decided, that after completation of six years term, to man the present Project areas with a small supporting unit, and to utilize the existing family planning infrastructure for continuation of the Project activities. Further the Sterering Committee decided to extend the Project acitvities in three new Unions under the assistance and technical support of JOICFP.

Parasitic Infestations in the Dead

By
A.K.M. Aftabuddin,
Professor of Pathology,
Sher-e-Bangla Medical College,
Barisal.

SUMMARY :

Postmortem examinations were carried out on deceased, who died in the hospital (suffering from diseases) and also on deceased who were brought for medico-legal examinations. Ascaris lumbricoides were seen in the small intestine of 40% of the deceased in the hospital group and of 63% of the deceased in the medico-legal group.

Introduction :

Many reports have been published of the incidences of parasitic infestations in Bangladesh. All of them were based on the examinations of stools for the presence of ova of the parasites. The present one was based on the presence of the parasites in the intestine of the deceased.

Materials and Methods :

Postmortem examinations were carried out on all deceased (where hands could be aid on the corpses) to study pathological lesions in them. In all cases the intestines were spilt opened and examined throughly for the presence of parasites. The deceased were grouped into two.

1. Those who died in the hospital (suffering from diseases) Group—A.
2. Those who were brought for medico-legal examinations. Group—B.

Timings of postmortem examinations varied from 10 hours to 29 hours after death in the Group A (Chart I). In the Group B, timings of the postmortem examinations were uncertain (as the time of deaths were not definite in most cases), but no decomposed body was included the study.

This work was done at Mymensingh Medical College from June 1976 to October 1976. The work was supported by a Grant from Bangladesh Medical Research Council.

There were 39 cases in Group A and 83 cases in Group B. Ascaris lumbricoides were seen in 16 cases (40%) in group A and in 52 cases (63%) in Group. B. The parasites number vary from one to nearly one hundred ; on the average their number were five to twenty. The ages of the deceased (both sexes included) harbouring the parasites ranged from 2 years to 70 years. Symptomatology and clinical presentations of Group A patients were noted (Table I). No note was made of the laboratory findings in these patients and the treatment they received.

Hook worms and other parasites were not demonstrated in these examinations.

DISCUSSION :

The high incidences of parasitic infestations amongst the Bangladeshis are well known. This work was done as a curiosity in addition to the findings of pathological lesions in the deceased.

The incidences of Ascaris lumbricoides infestations in the deceased of both groups are in conformity with the published reports on the incidences of Ascaris lumbricoides infestations in the community ascertained by stool examinations (Table 2 and Table 3). Surprisingly no Hook worm or any other parasite was seen in the intestines of the deceased (both groups included). The reasons were not evident to me. Could it be that the small parasites got lysed or mixed up with the intestinal contents of the deceased and evaded detection ?

TABLE—1

Clinical presentations and Symptoms	Number of Ascaris Positive Cases
Malnutrition and anaemia (at postmortem two had P.T., one had constrictive pericarditis, one had pyloric stenosis, one had chronic gastric ulcer, one had chronic duodenal ulcer and the rest six were simply malnourished emaciated persons with no pathology)	12
Broncho-pneumonia (both had bilateral P.T.)	2
Intestinal obstruction (female 12 years)	1
Buerger's disease (male 42, had atherosclerosis with occuluding thrombus at the bifurcation of abdominal aorta)	1

TABLE—2

Incidences of Ascaris lumbricoides and Hook worms infestations in Mymensingh.

Source	Area	Hook worms		Ascaris	
Author 1973	Mymensign Rural Area	Male Female	86% 30%	Male Female	40% 85%
	Mymensingh Urban Area	Male Female	20% 44%	Male Female	25% 58%

TABLE—3

Prevalence of Ascaris and Hookworm Infection in Bangladesh.

Source	Area	Hook worm	Ascari
Kuntz, 1960	Around Dhaka City	48%	66%
Begum NN, 1975	Unknown	51%	24%
Muazzam et al, 1961	Rural Area	57% (all helminths)	
Huq N, et al, 1976	Urban Dhaka	15%	55%
Mackay et al,	Sylhet Tea State	9%	48%
Aftabuddin, 1973	Mymensingh	32% (Combined infection)	
Muttalib, 1975	Dhaka University Students	7%	39%
Hossain MM, et al 1981	Matlab Surveillance at ICDDR, B	44%	85%

(Quoted by G.H. Rabbani, Bangladesh Journal of Child Health 1985, 9 (1) : 46

REFERENCES :

1. Aftabuddin, AKM, Helminthic infestations in Mymensingh. Mymensingh Medical J. 1973, 16-20.

2. Rabbani, GH, Intestinal Helminthic Infection and Malnutrition, Bangladesh J. Of Child Health 1985, 9(1) : 45-52.

3. Kuntz RE, Intestinal protozoa and helminths in school children of Dhaka, East Pakistan (East Bengal) Am J. Trop Med Hyg 1960,9 : 168-72.

4. Begum NN, Rahman KM, Comparative findings of intestinal helminths and protozoa by various techniques. Bangladesh Med J. 1975, 4 : 4-8.

5. Muazzam MG, Ali MT. Intestinal parasites in East Pakistan J. Pak Med Assoc 1961, 11 : 85.

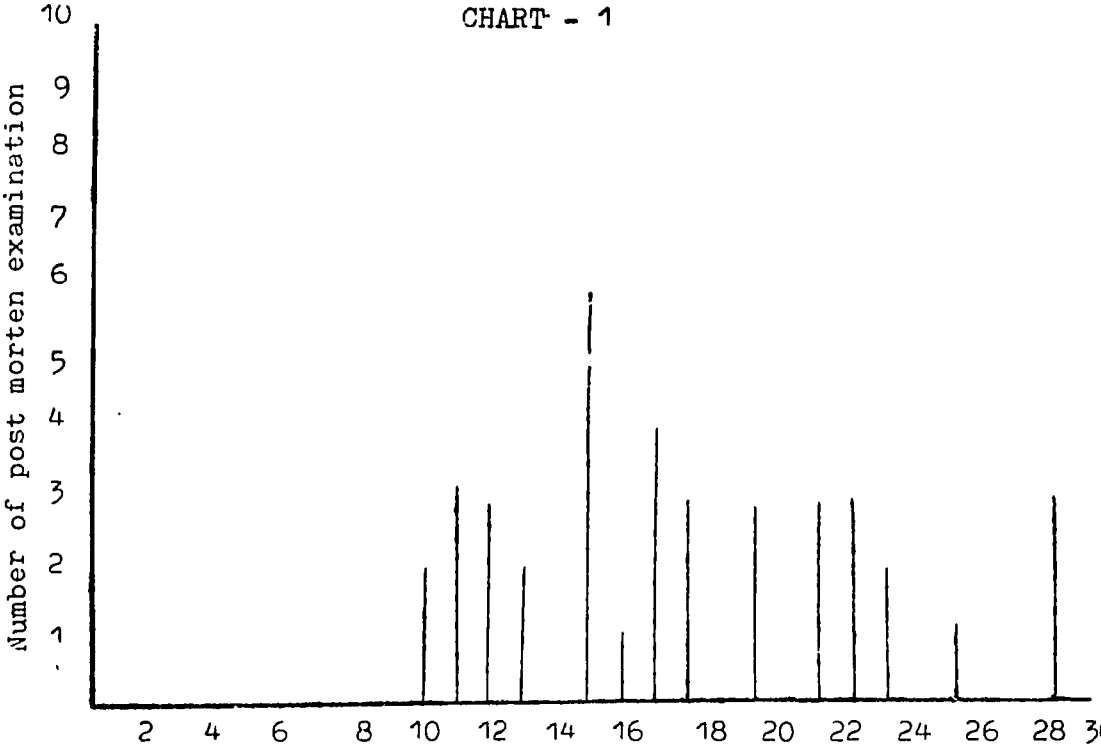
6. Huq M.N Shaikh AA. Incidence of intestinal parasites in children of different socioeconomic population of Dhaka city. Bangladesh Med Res. Counc. Bull 1976, 2 : 1-7.

7. Mackay MD et al. Quoted by Ahmed T. Epidermilogy of Helminthiasis in Bangladesh. Bangladesh paediatrics, 1976, 7-9.

8. Muttalib MA, Islam N, Ghani JA, Khan K, Azizullah A, Islam B. Intestinal parasites in university of Dhaka Students. J. Trop Med Hyg 1975, 78 : 224-6.

9. Hossain MM, Glass RI, Black RE. The prevalence of Ascaris, Hookworm, and trichuris in patients attending a rural diarrhoea treatment centre in Bangladesh. Southeast Asian J. Trop Med Public Health 1981, 12 : 539-43.

CHART - 1


Number of post morten examination
10
9
8
7
6
5
4
3
2
1
2 4 6 8 10 12 14 16 18 20 22 24 26 28 30
Time(in hours after death) of performing postmorten examination.

Study of Seasonal Variation and Degree of Infection and its Impact on Nutritional Status of Semi-urban Population of Dattapara, Dhaka.

1. *Dr. Abul Hussain Md. Abdur Rahman,*
Director,
Instt. of Public Health Nutrition,
Mohakhali, Dhaka-12, Bangladesh.
2. *Dr. Md. Qumrul Jalil.**

Parasitic infection in Bangladesh is very high (Rahman 1963, Muttalib 1970, Moazzem 1970, Chowdhury 1978, Shahabuddin 1983). In areas with inadequate sanitation most person get infected with intestinal parasite. The most common infection in Bangladesh is ascaris lumbricoids (round worm). As ascaris needs no alternative host and is transmitted from person to person in food or water contaminated with faces containing eggs. W.H.O. Technical Report No. 314 cites relationship between ascaris infection and stunting, general under-nutrition, avitaminosis decreased protein absorption, xerophthalmia and ascorbic acid deficiency and all these are related to nutritional absorption.

The present study aims at (a) analysis of the epidemiological feature of human population and its relation between infection, habits of food sanitation and their level of education and its impact on the status of malnutrition within the population particularly anaemia and its relation of iodine absorption need to be visualized, (b) more effective and economic method of maintaining control depends on the seasonal fluctuation of incidence of parasite, assessment of the seasonal variation and degree of infection and/re-infection in relation to rainfall and other climatic changes is therefore the key factor in combating parasite after mass treatment.

MATERIALS and METHODS :

A slum area known as 'Dattapara' village located on the periphery of Tongi Industrial Area. This is a semi-urban village inhabited mainly by the settlers from erodated riverine areas has been selected as the community for study. A detail survey was conducted by the field workers about the population and its environments (Table—1). The village has got a population of 14000 and about 3464 families and divided into 8 blocks. There are two schools in the area having an enrolment of 1200 students. Most of the families live in thatched quarters which are arranged in orderly manners. About 30% of the houses are well-built.

* Junior Clinician, Institute of Public Health Nutrition, Mohakhali, Dhaka, Bangladesh.

Heavy rainfall are usually encountered during the end of May to early September. Occasional flooding are common. There is one main road and narrow foot-paths through these houses but communications are difficult during the rainy seasons. Several families used community latrine built in raised ground under a shade in rows and separated by partition and others use their own built latrines. About 14.8% of them had no definite latrine for defaecation. Young children often defaecated in their own homes. During winter ponds receiving affluent almost dried up and during monsoon period the overflow drained through open surface channel. Average monthly rainfall for the last three years are calculated and shown in Table—II-A. Population of this area usually drawn water from tube-wells year round but bathed and washed with tube-well water during dry season. During monsoon, they washed and bathed in ponds or surface water. 135 households are selected on random basis taking every 16th house for study from May 1985 to April 1986 from the population. The inhabitant of the selected house-hold maintaining 715 persons constituted the respondents of the study (Table—II).

The relevant information was collected by the field workers from the respondent according to the pre-interview schedule.

Two containers were given to each member of the selected households for giving their stool and urine (Table—II and VII). Estimation of Hb (Anaemia) was done locally by the laboratory technician while visiting the each house and are recorded in the history sheet (Table—III-"A"). The stool samples were collected in clearly labelled container and examined in the Institute's laboratory for helminth eggs with cellophane, thick smear technicque method. Details of the size and location, age, sex of each member of the household together with the results of stool examination are recorded. 10% of the negative slides are re-examined by a specialist to avoid missed cases.

The estimation of iodine from the urine samples are done through rapid micro semi-method using a reagent containing (i) sodium arsenate, (ii) ceric ammonia sulphate, (iii) potassium carbonate, (iv) stock of iodine for possible finding of non-clinical goitre and its relation with any intestinal infection (Table—VII). A comparison has aslo been made on the urinary iodine excretion of goitre hyper endemic population of Dewangonj.

All subjects in the households both positive and negative for parasite eggs are treated simultaneously. The reason for deworming persons including the negatives is that it is quite possible that a subject might be infected with worms that are in larval stage and to premature to lay eggs. The post treatment stool examinations are conducted every month.

RESULTS :

Stool examination of 341 respondents out of 715 sample population in the Dattapara village showed that 249 individuals are infected with ascaris, 09 with hookworm and 97 with t. trichura, on 1st examination before treatment details of the breakdown of infection are shown in Table—II. The rate of infection corresponds to study made by Integrated Family Planning, Nutrition and Parasite Control Project, Dhaka, Bangladesh Report. 0.3% of the

respondents has got triple infection and 0.45% of the respondents has got double infection (Table—IV).

The results revealed that ascaris is more prevalent in children than adults.(1) Hookworm infection are more predominants among adults female than children because they work in the field using no shoes. Highest rate of anaemia was found females (Table—III-A) between the age group of 0-9 years and above 49 years.

The post treatment response among the sample population has increased from 47.6% to 60%. The incidence of ascaris has reduced from 73% to 21.9% and hookworm from 2.6% to 1.4% and t. trichura from 28.4% to 12.3% in June. The decline in the incidence of all categories of parasite is minimum in the age group 9-14 years (Table—VI). The downward trend of parasitic infections continued in the month of June-July-August-September (Table—VI), but the parasitic incidence has gone up in the month of October from the lowest of 10% to 41.1% of ascaris infection from July to October (Table—VI). The incidence of hookworms infection has also gone high from 1.8% to 9.1% during the post monsoon period.

Forty out of 135 families practice family planning among the sample population. Illiterate couples prefer sterilization over other methods compare to literate group. Income of the respondents have no bearing in the family planning practices in the community. Motivation and felt needs of the respondents probably influence the use of contraceptive to a great extent (Table—V).

Mean urinary iodine excretions are estimated in a randomly sampled populations of Dattapara areas as compared to a highly endemic goitrous area of Dewangonj and it is revealed that mean urinary iodine excretion is much higher among the respondent of Dattapara village compared to highly endemic goitrous areas of Dewangonj (Table—VII). High parasitic infection probably has no relation with the absorption of iodine in the population.

DISCUSSION :

The present study from May to December indicates the patterns of re-infection, its relation with the environmental factors particularly with rainfalls. The starting of the higher rate of infection in the month of September and October can be explained with the maximum contamination of soil after the heavy rainfall in July and August and the mobility of the people within the contaminated environment. Production of winter vegetables and its raw utilization may be another factor for high post monsoon parasitic infection. This finding corresponds with the findings of Professor Ismail of Sri Lanka. (Paper presented in the last Parasitic Conference in Tokyo). Studies have shown that factors of weaning, common infectious disease in childhood, like diarrhoeal disease, respiratory infection, measles etc.

---

(1) Benchamart Yodmant and Others—Re-infection of ascaris after treatment with Pyrantel Pamoate and the factors relating to its active transmition in a slum in Bangkok—collected papers on the latrine soil treatment helminth.

are to a great extent responsible for malnutrition. The low socio-economic condition with an average family size of 5.3 has complicated the health problems. Family planning practices, as observed in the community reveals that poor and illiterate section of the respondent prefer sterilization compared to any other method of family planning practice. The rate of anaemia was observed among the two ends of age groups of the sampled population. There is difference of urinary iodine exotion of the two group of population originated from erodated riverine areas of Bangladesh. This variation may be due to iodine content of food in these two different localities rather absorption of iodine due to diarrhoea. Ignorance of the parents, low sanitary condition is added to the complex picture of the parents, low sanitary condition is added to the complex picture of the Dattapara village.

REFERENCES

1. Dr. A.H.M. Abdur Rahman, Intestinal Parasites in School Children of Tejgaon area, East Pak. Medical Journal, July 1963.

2. W.H.O. Technical Report No. 314.

3. AK10 Kobayashi, The method for the investigation of seasonal variation in the incidence of soil transmitted helminthic infections, collected papers on the control of soil transmitted helminthiasis Vo. II.

4. Muttalib M.A., Islam N. and Islam S. Prevalence of intestinal parasites in rural children of Bangladesh, Bangladesh Medical Journal Vol. 5, p. 9-27.

5. M.A. Muttalib, M.U. Khan and J.A. Hoq. Treatment of intestinal nematodes with high dose treatment of mebendazole, collected papers on the control of soil transmitted helminthiasis.

6. Proceedings of the Second National Seminar on Integrated Family Planning, Nutrition and Parasite Control, Dec., 30, 1982, Integrated Family Planning, Nutrition and Parasite Control Project, Dhaka, Bangladesh.

TABLE—I

Table Showing Household Survey Report of Dattapara Village, Tongi, Dhaka.

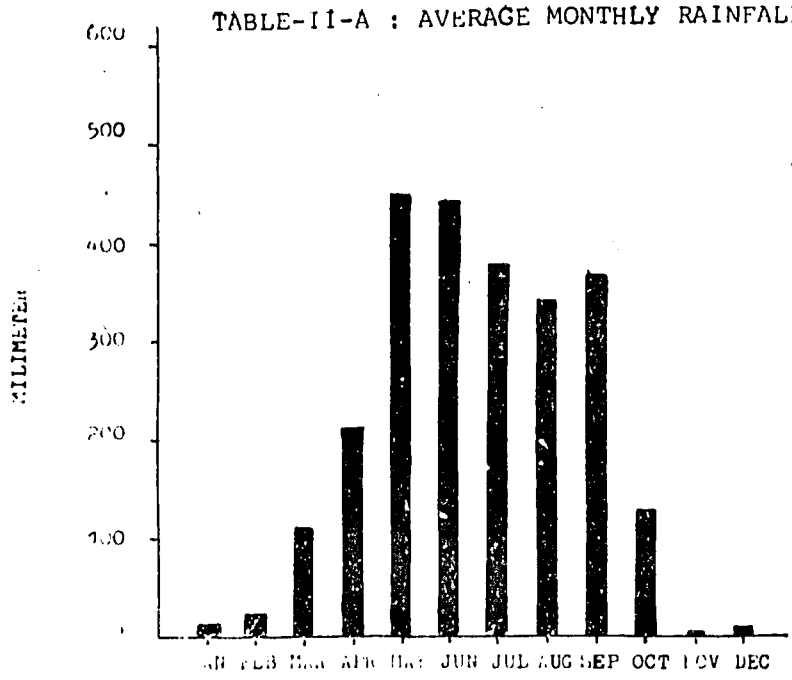
Sl. No. Block	Total Houses	Total Family	Children		Total Adult		OCCUPATION										Remark
			Under five	5-15 years	Male	Female	Total Population	Day Labour	Rick cart puller	Hawker Feriwala	Petty Business man.	Begger	Service holder	Machanic	Mason-tailor-carpenter painter	Hotel, shop boy maid servant etc.	
1.	352	358	257	544	390	463	1656	126	107	22	57	17	01	10	20	25	
2.	317	322	212	409	345	400	1366	127	95	23	19	11	48	10	16	12	
3.	583	694	418	856	648	772	2694	220	251	50	13	25	147	08	46	55	
4.	497	538	378	711	356	695	2340	281	167	25	19	32	118	01	32	32	
5.	552	608	418	702	657	683	2460	288	107	24	58	08	88	—	82	—	
6.	334	366	236	437	337	401	1411	111	67	44	13	14	71	02	35	19	
7.	269	300	207	403	300	367	1277	109	70	20	11	27	58	02	17	05	
8.	226	278	164	327	228	326	1043	123	90	12	17	05	54	01	06	—	
Grand Total	**3130**	**3464**	**2290**	**4389**	**3261**	**4107**	**14247**	**1385**	**954**	**220**	**207**	**139**	**576**	**34**	**254**	**148**	

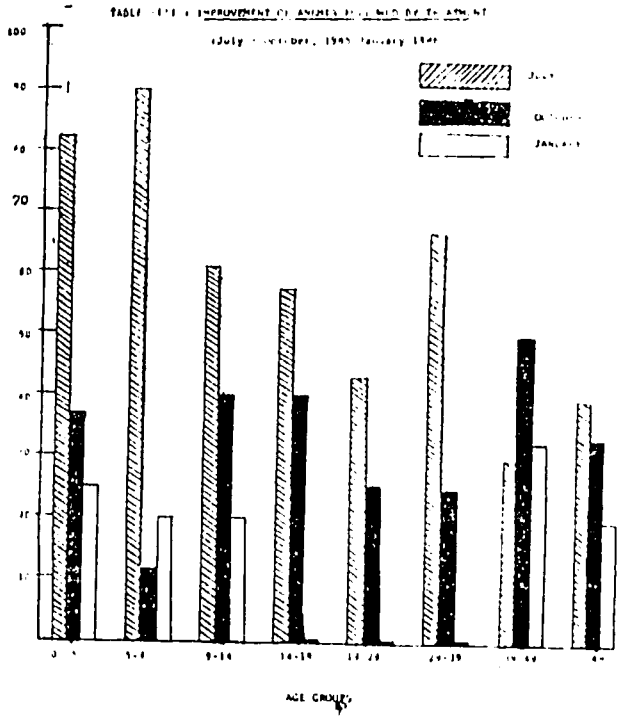
TABLE—II

PREVALENCE OF PARASITIC INFECTION BY AGE

Age Group (Years)	Sample Population	Responses (Stool Collected)	Laboratory Findings		T. Trichura
			Ascaris	Hookworm	
0-5	115	42	28	01	12
5-9	109	66	53	01	27
9-14	104	47	36	01	15
14-19	52	31	22	00	03
19-29	105	45	34	01	10
29-39	103	37	28	02	12
39-49	58	35	23	02	07
49 and Above	69	38	25	01	11
Total :	**715**	**341**	**249**	**09**	**97**
%			**73%**	**2.6%**	**28.4%**

TABLE-II-A : AVERAGE MONTHLY RAINFALL (1983-85)





TABLE—III-A

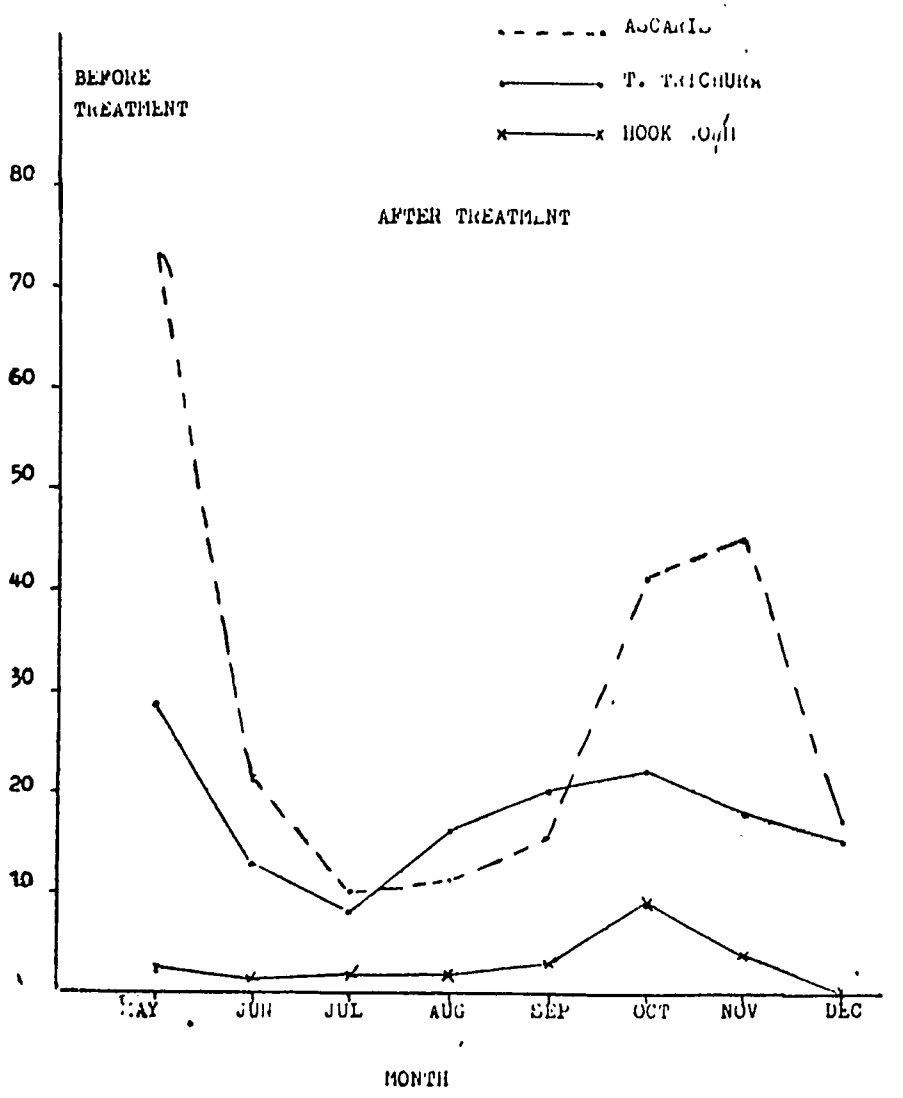
Prevalence of Parasitic Infection and Anemia

Age Group (Years)	Non-Responses	Responses	Parasitic Infection		Male			Female			Hb. less than gm 60%
			Ascaris	Hookworm	9gm. below 60%	9.11 gm. 60-73%	-14.5 gm above 73%	9gm below 60%	9-11gm. 60-73%	11-14.5 above 73%	
0-5	85	52	28	01	31	3	0	15	3	0	88%
5-9	39	53	53	01	22	6	0	20	5	0	79%
9-14	63	47	36	01	6	3	0	22	11	0	58%
14-19	37	15	22	00	1	5	1	1	7	0	13%
19-29	57	44	34	01	0	5	0	16	23	0	36%
29-39	67	35	28	02	1	8	0	10	15	1	31%
39-49	50	14	23	02	1	3	0	6	4	0	50%
49 + Above	40	17	25	01	6	4	0	8	4	0	82%
Total :	**438**	**277**	**249**	**09**	**68**	**37**	**1**	**98**	**72**	**1**	
					24.6	**13.3**	**.4**	**35.3**	**26.0**	**.4**	

TABLE -VI

SEASIONAL VARIATION OF PARASITIC INFECTION

(May to December 1985)



TABLE—IV

Table Showing the Number of Person having more than one Infection

Age Group (Years)	Sample Population	Responses (Stool Collected)	Ascaris Hookworm T. Trichura		Ascaris Hookworm		Ascaris T. Trichura		Hookworm T. Trichura		Ascaris		Hookworm		T. Trich
			M	F	M	F	M	F	M	F	M	F	M	F	M
0- 5	115	42	0	0	0	0	4	8	0	0	6	3	0	0	0
5- 9	109	66	0	0	0	0	3	3	0	0	7	0	0	0	2
9-14	104	47	0	0	0	0	0	3	0	0	3	9	0	0	0
14-19	52	31	0	0	0	0	1	1	0	0	3	1	0	0	0
19-29	105	45	0	0	0	0	2	3	0	0	9	2	0	0	1
29-39	103	37	0	0	1	0	4	4	0	0	2	7	0	0	0
39-49	58	35	0	0	0	1	3	0	0	0	5	3	0	0	0
49 + Above	69	38	0	1	0	0	2	2	0	0	5	4	0	0	0
Total :	**715**	**341**	**0**	**1**	**2**	**1**	**19**	**24**	**0**	**0**	**40**	**29**	**0**	**0**	**3**
%				**0.3**	**0.6**	**0.3**	**5.6**	**7.0**	**0**	**0**	**11.7**	**8.5**	**0**	**0**	**0.9**

TABLE—V

Table showing the Literary Rate, Income and their Patterns of Family Planning Practice in Dattapara Community.

Education	Total No. Family	Monthly Average Income Taka	Family Planning			
			Yes	No.	Temporary	Permanent
Illiterate	87	754.00	26	61	17	9
Primary	32	729.00	10	22	10	0
Secondary + Above	16	903.00	4	12	4	0
Total :	**135**	**795.00**	**40**	**95**	**31**	**9**

TABLE—VII

Table Showing Mean Urinary Iodine Excretion According to Grades in Two Different Study Areas of Bangladesh.

Survey Location	Survey Population	Grade	Number of Sample According to Grade	Mean Urinary Iodine Excretion rate in/UGM. per GM. of Creatinine /Person
Dewangonj (Highly endemic area)	204	0	39	41.40
		1a	65	24.55
		1b	38	23.53
		2	30	19.16
		3	22	32.30
		4	8	34.26
		A	2	48.62
Dattapara Village (Non-endemic area)	216	0	216	262.10
		1a	Nil	—
		1b	Nil	—
		2	Nil	—
		3	Nil	—
		4	Nil	—
		A	Nil	—

Prospect of Integrated Family Planning, Nutrition and Parasite Control Project in Bangladesh.

M. A. HASHIM DPGS (U. K)
Deputy Director,
Family Planning

Having been initiated through voluntary efforts in 1953, the Family Planning movemen in Bangladesh has undergone many changes in both organisational structure and functional concept. The current thrust on multi-sectoral approach, MCH care and community participation with major objectives of integrating population related activities by strengthening the programme into areas beyond family planning and also by adopting certain measures for promoting acceptance of family planning puts the national population control programme on a sound strategy. The aim of national population control programme is not only to reduce growth rate, help fertility decline and stabilise population size consistent with available resources of the country but also to regulate the family size so as to ensure higher standard of living, improve health condition and welfare of the family. It is an undeniable fact that the blessings of family planning cannot be demonstrated like for example, the benefit of using chemical fertilizer. By adopting family planning one cannot raise one's income and any social gains such as more food per head of existing family and space and better health and take a long time to become visible. It is observed that people's reaction to family planning programme becomes responsive and acceptable when they find some visible economic benefit or see social gains which may appear to be something fundamental to their needs, desire and expectation alongwith acceptance of family planning. The conventional approach (i.e. distribution of technologies) of family planning seems to hold little promise not only in Bangladesh but also in many other under-developed countries in matters of fertility control. The unexpected widening gap between the family planning programme efforts and the expected return has given rise to some possimism about the prospect of existing family planning programes. Thus the concept of integration of health welfare activities and development components with population control programme is being widely accepted by the family planning planners and administrators throughout the world because integrated approach is considered to be quite effective, useful, desirable and viable in promotion of family planning as well as, ensuring improved living condition, health and environmental sanitation of the people.

From "Infancy" the family planning programme in Bangladesh has now reached the stage of "adulthood". Since inception of family planning programme in Bangladesh has been quite a number of seminars of international scope of various aspects of family planning programme. Many views have been expressed and many suggestions have been made to reach a possible solution of the country's population problem and a very few of such shared experiences and suggestions have been tried in the field except encouraging, funding and supporting some Government and non-government organisation actively involved in the field of MCH and FP programme and expansion of organisation pattern, physical infrastructure and manpower extending down to peripheral level. Besides above, two innovative pilot project namely—Zero Population Growth Project and Integrated Family Planning, Nutrition and Parasite Control Project were undertaken during the period from 1976 to 1979 with assistance from two leading Japanese organisations known as JICA and JOICFP.

In mid-1976 Zero Population Growth Project was launched in 5 Project areas covering 21 unions of the country with specific aim of obtaining equillibriam between birth and death rate through a sustained reduction in birth rate of population in the project areas through local community efforts. After four years of activity the project could achieve 1.22% growth rate in December, 1979 as against national average growth rate of 2.65%. By February, 1980 the project recorded 40%-54% family planning acceptance rate as compared to national average acceptance rate of 18.6%. The basic thrust of the project was to bring about socio-economic changes in the project areas by expanding productivities and supporting economic activities alongwith cutting down population growth rate as zero percent by 1980. Despite the project could record acceptance rate two to three times higher and registered more than 50% lowering birth rate in the project areas than the national average, the project did not provide any good experience in contental of its intended goal and desired impact.

The demonstrated success of Integrated Family Planning, Nutrition and Parasite Control programme in 12 countries around the world has prompted the Government of Bangladesh to initiated such an innovative pilot project in 4 selected areas of the country with assistance from another Japanese organisation named JOICFP in mid-1979.

The Integrated Family Planning, Nutrition and Parasite Control Project started with the specific objectives of :

(a) Integrating the family planning and the control of soil transmitted helminthic infaction in the community as an incentive and conducive factor for acceptance of family planning.

(b) Reducing the prevelence and intensify soil transmitted helmenthic infection while increasing the nutritional standard of the people.

The long term objective of the project is to reduce the incidence of parasite infection, infant morbidites and infant mortality rate and ensure improved health status, with better environmental sanitation and nutrition through health education and facilities.

Since inception in three project areas the project is being implemented through field functionaries of the Directorate of Population Control under the leadership of Upazila Family Planning Officer and in one project area the implementation of the project has been left to local Family Planning Association which is carrying out the activities of the project through its own field staff under the command, supervision and control of the District Project Officer.

The local steering committee headed by the Union Parishad Chairman provides ground for co-ordination, enlists community supports and monitor programme activities in the project areas. The Upazila Family Planning Officer/The District Project Officer acts as chief aider to the project playing a very vital role in all affairs of the project in the capacity of Project Officer.

The Integrated Family Planning, Nutrition and Parasite Control Project has successfully stepped in 6th year of its operation.

The experience of the last five years of the Project show that :

(a) The integrated project activities have increased the credibility of the family planning field workers in the project areas.

(b) The deworming process has proved to be successful in preventing worm infestation.

(c) The integrated family planning project with parasite control and nutrition as potential partners has proved its effectiveness in resulting reduction of infestation rate from 90% to 22% and enhancement of contraceptive prevelence rate to around 53% as compared to 23% national prevelence rate in June, 1984.

(d) The integrated project acitivies have established that peoples reaction to the family planning programme become more responsive and acceptable when it is integrated with other potential partners relating to health and development that are essential to improve socio-economic conditions of an individual and of the community at large.

(e) Implementation of the integrated project with deworming as entry point indicates that it does not require complex or sophisticated technology, high cost and scarce manpower rather it is easy to manage such programme by any community with visible results.

(f) The project activites have demonstrated significant progress in generating interest of the community as a whole about the needs of personal hygiene, environmental sanitation, MCH care, education on communicable diseases alongwith the benefit of accepting family planning.

(g) The role of local steering committee and volunteers have been found quite useful in arousing consensous of the community in project areas.

(h) The achievement of this pilot integrated project encourages incorporation of this type of activity in a bigger way in the national programme.

Stool examination, treatment of positive cases of parasite infestation, supply of sanitary latrines, provision of safe drinking water, use of volunteers and community leader's are the continuing features of the pilot project.

With the adoption of twin policy objectives of NRR-1 and "Health for All" by 2000 A.D. in the country's Third Five Year Plan (1985-90) Governmental efforts have remained under way to develop a co-ordinated system for delivery of priority Family Planning, MCH/ PHC services at the upazila and below level and ensure optimal use of personnel, facilities and resources so as to achieve the goals. The over all goal of Family Planning, MCH and PHC services within the current Five Year Plan period may be enunciated as under.

—reducing TFR from its present level 5.8 to 4.1.

—raising contraceptive practise level from 23% to 37%.

—reducing CBR from 38 to 32-5, CDR 15.2 to 13.1 per 1000 population.

—reducing infant mortality from 140 to 100 per 1000 live births.

—Providing antenatal and post-natal care to all pregnant mothers within 2000 population around each of the functional static facilities.

—Providing safe delivery services to cover 30% of all deliveries in rural areas.

—Immunising at least 60% of the women in the reproductive age groups of the unions covered by functional H and FWCs and where Upazila Health Complexes are located plus a population of 2000 around each MCWC with two doses of T.T.

—Imparting knowledge to 75% rural families on ORT.

—Immunising 80% of chi'dren under 2 years of age and below living a population of 2000 around each of the functioning H and FWCs/MCWCs/UHCs against Diptheria, portuses and Tetanus.

To attain the above goals, an integrated package of primary health care combining with health education and nutrition, immunisation, Provision of safe drinking water, environmental sanitation, control of communiable diseases and family planning services has to provided to the people.

At the grass root level Union Health and Family Welfare Centre is the main faci for delivery of both health and family planning services while the keys to service delivery are the Health Assistants, Family Welfare Assistants and the indegenous mid-wives called Dais. They are the frontline workers serving as the main sources of off-prescription and non-clinical supplies and services, providing education motivation on both health and family planning and reforrals of clinical methods under the supervision of Assistant Health Inspector and the Family Planning Assistant. There are one Medical Assistant, One Pharmacist, One Family Welfare Visitor,One M.L.S.S. and one Aya in the fully established H and FWC and one Family Planning Assistant,3 Family Welfare Assistants,2-3 Health Assistants and One Assistant Health Inspector in the field on the pay-roll of the Government in a union. Besides, there remains 10-15 Trained TBAs and 3 Dais. A full functioning H and FWC provides (a) Office rooms for Medical Assistant and Family Welfare Visitor (b) Clinic room (c) Recovery room (d) Field workers meeting room (e) Dispensing room and (f) Hall room. The next tier of institutional framework of devlivery of priority family planning. MCH/PHC service is the Upazila Health Complex. It is headed by a Upazila Health and Family Planning Officer. It consists of 9 Medical Officers, Upazila Family Planning Officer, Sanitary Inspector, Health Inspector, Laboratory Technician, Family Welfare Visitor and other supporting clinical and clarical staff.

While implementation of an integrated project with deworming as entry point does not require complex technology and scares manpower it is essy to manage under the umbrella of present national population control programme. Mass deworming treatment can easily be introduced all over the country through the existing field structure.

Stool examination and treatment of positive cases of parasite infestation can easily be undertaken by the Laboratory Technician/Medical Assistant/Pharmacist in the existing clinical facilities of Upazila Health Complex and Union Health and Family Welfare Centres. To ensure community participation use of volunteers and local influentials can hardly be ever-imphasised. The existing Upazila Family Planning Committee/Union Family Planning Committee or H and FWC Advisory Committee as proposed in the Third Five Year Plan could be reconstituted with principles being followed in the formation of steering committee in the pilot project. The same principles could also be adopted in case of recruitment of volunteers in the project areas.

The active involvement of the available trained TBAs and Dais in the programme activities could be considered equally. There exists adequate facilities for localised training of field workers and volunteers in both the Upazila Health Complex and the Union Health and Family Welfare Centres on the integrated approach of parasite control and nutrition.

A trainers training course for the senior Family Welfare Visitors, Health Assistants, Sanitary Inspectors and Family Planning Assistants on parasite control and nutrition education could be organised of one month duration in the Regional Training Centre with the idea that they will impart training to the field functionaries and the volunteers to be involved in the programme activities. At the same time, the said training could be made a part of training programme now being organised for the basic Health and Family Planning workers in the

Regional Training Centres. The present course of on-the-job training of two-weeks duration for the field workers may be redesgined accordingly. The above activites could be carried out within the present frame works of Institutional facilities and with available manpower with little cost or no cost.

The only constraint now facing the Government is that of resources to go for expansion. With larger co-operation with JOICFP, JICA and other possible doner agencies in terms of financial resources and technical assistance, the parasite control component could be introduced in our national population control programme following a phased-implementation process.

Under the present circumstances the integration of health components like nutrition, parasite control and MCH care with the population control programme is considered to be realistic approach to achieve twin objectives of NRR-1 and Health for All by 2000 AD as envisaged in the nations' Third Five Year Plan.

References :

1. Family Planning to Population Planning in Bangladesh.
   (Dissertion submitted to David Own Centre-Cardiff U.K. in 1976)

   —M.A.Hashim.

2. Parasite Control Program a strategy for Improvement of Primary Health Care.
   (Paper presented in 1983 Seminar)

   —Dhiraj Kumar nath
   and
   —Abul Hassan.

3. Parasite Control, Nutrition—An Integrated Approach to Family Planning.
   (Paper presented in 1982 Seminar)
   —Jalaluddin Ahmad
   —Dhiraj Kumar Nath

4. Activities Report on Integrated Family Planning, Nutrition and Parasite Control.
   (Report presented in 1984 Seminar)

   —Lt. Col. Shahabuddin Ahmad (Retd)
   and
   —Abul Hassan.

5. Key note, Address of Secretary, Ministry of Health and Population Control in 1984 Seminar.

   —A.B.M. Ghulam Mostafa

6. Third Five Year Plan (1985-90) Government of the People's Republic of Bangladesh.

Community's Perception of Voluntary Sterilization As a Permanent Method of Family Planning in Bangladesh.

By
Dr. M. Hashmat Ali.

1. INTRODUCTION :

1.1. The land, now known as the People's Republic of Bangladesh has been experiencing a rise in the population Growth Rate since 1950. In 1951, the population of this land was estimated at 42 million. The current estimate (1985) is 96 million. The present growth rate is 2.44 percent. It is feared that it will be very difficult to maintain this growing population with any acceptable standard of living by the turn of the century. Realising this, the Government of Bangladesh adopted a bold Family Planning Programme. It is MCH based, multisectoral and integrated with the Primary Health Care System. Through an effective Information, Education and Motivation, institutionalised Service Delivery approach and availability of multiple choice of the contraceptives, the Family Planning Programme has been making a steady progress. The Contraceptive Prevalence Rate has risen from 7.7 percent in 1975 to an estimated 26 percent in 1985. There has been a significant rise in the acceptance of Voluntary Sterilization as a permanent method of Family Planning.

1.2. Along with the expansion of the operating centres for the permanent method of Family Planning the Government has been paying due attention to the safety of this procedure with a view to reducing the morbidity and mortality related to the sterlization operation. The quality of the sterilization services in totality has been under constant watch for improvement. For this Sterilization Surveillance Teams have been at work since 1982.

1.3. The success of the Voluntary Sterilization Programme is dependant amongst others on the attitude and acceptance of it by the community. If it is not accepted by the community mere surgical excellence cannot promote the acceptance of this method among the eligible couples.

1.4. So, in order to measure the acceptance of the Sterilization Programme and other relevant issues, a Survey was under taken by us from the P. and M. Consultants dur'ng 1984. The Data are under analysis. However, we have chosen to high light some information regarding the community's perception of Voluntary Sterilization as a method of contraception in this form.

2. OBJECTIVE :

2.1. There were a number of specific objectives for this study of which assessment of the Community's Perception of Voluntary Sterilization as a permanent method of Family Planning was one. The overwhelming majority (86.6%) of the people of Bangladesh are Muslims in faith. It is usually assumed that there is a non-acceptance of this method by the community as a routine on social and religious grounds. So, one of the objectives was to test this hypothesis.

3. METHODOLOGY :

3.1. Sample Design :

The population studied were women and men who had undergone sterlization procedure in the selected centres.

3.2. Sample Size :

Sterilized Women 1860 and Sterilized men 417 (Total 2277) were successfully interviewed.

3.3. Time Frame :

(a) Those who were sterilized during 1st May 1984 to 31st may 1984 i.e. 3-4 months before the interview.

(b) Those who were sterilized during 1st May 1983 to 31st May 1983 i.e. 16-18 monthes before the interview.

3.4. The size of the centres of various agencies were as follows :

(a)	Upazilla Health Complex (Government)	20
(b)	Health and Family Welfare Centres (Government)	40
(c)	Non Government Organisation (NGO)	5
	Total	65

3.5. Selection of the Sterilization Centres :

The Upazilla Health Complexes (UHC) were stratified on the basis of the old 20 Districts. The Health and Family Welfare Centres (H and FWCs) were selected by the use of random tables. The NGOs were listed by the group of the NGOs. By using the table of number, two centres were selected from the Bangladesh Association for Voluntary Sterilization (BAVS), two centres were selected from the Bangladesh Family Planning Association (BFPA) and one was selected from the Community Health Care Project (CHCP).

3.6. Selection of the Sample Clients :

The total performance of Tubectomy and Vasectomy procedures in the above three levels of the selected centres in terms of the time frame were collected from the Management Information System (MIS) Unite of the Population Control Directorate. The proportion of Tubectomy to Vasectomy was used in selecting the required sample clients of both sexes. Random sampling procedure was utilized in drawing the required number of cases from the registers maintained in these centres.

4. PROCEDURE OF DATA COLLECTION :

Interviewers, Supervisors and Consultants were involved in the Various tasks. separate questionnaires were used for the female and male respondents. On the basis of the objectives these were prepared, pre-tested, finalised and used as the Data Collecting Instruments. The Interviewers were imparted necessary training before hand.

5. DATA PROCESSING :

After hand tabulation, the Data was processed in the Computer Unit of the Bangladesh Institute of Development Study (BIDS), Dhaka.

6. RELIGIOUS CHARACTERISTICS (VASECTOMY) :

6.1. The Tabie 1 of the survey shows that the size of the Vasectomy respondents was 417 comprising 87.8 percent Muslims.

6.2. So it is seen that the pattern of response from the Muslim community for Vasectomy operation corresponds to the proportion of the Muslim population of the country.

Table—1.

Percentage distribution by religion of respondents.

Count Total %	Muslim	Hindu	Christian	Others	Row Total
Operated during 1983	181 43.4	31 7.4	— —	1 0.2	213 51.1
Operated during 1984	185 44.3	18 4.3	1 0.2	— —	204 48.9
Column Total	366 87.8	49 11.8	1 0.2	1 0.2	417 100.0

7. RELIGIOUS CHARACTERISTICS (Tubectomy) :

7.1. A total of 1860 tubectomy clients were interviewed comprising of 73.9 percent from the period 1983 and 26.1 percent from the period 1984.

7.2. During the period 1983, 85.0 percent tubectomy acceptors were Muslims. In 1984 it was observed that 88.5 percent tubectomy acceptors were Muslims.

7.3. From Table-2, it is observed that the proportion of tubectomy acceptors corresponds to the proportion of the Muslim population of the country.

Table—2.

Percentage distribution by religion of respondent

Count Total %	Muslim	Hindu	Christian	Buddhist	Others	Row Total
Operated during 1983	1168 85.0	192 14.0	7 0.5	6 0.4	1 0.1	1374 73.9
Operated during 1984	430 88.5	53 10.9	1 0.2	1 0.2	1 0.2	486 26.1
Column Total	1598 85.9	245 13.2	8 0.4	7 0.4	2 0.1	1860 100.0

8. COMMUNITY PERCEPTION (VASECTOMY) :

8.1. Consultation with wife prior to operation :

8.1.1. Table 3 indicated that 79.6 percent Vasectomy acceptors consulted their wives prior to the operation while 20.4 percent did not consult.

8.1.2. The possible reasons for the non consultation could be that (a) the vasectomy clients were more mobile and took a decision when they were out of their villages on various pursuits (b) some vasectomy clients might not think it a necessity to consult their spouse as the man is usually the decision maker in the male dominated society particularly amongst the illiterates. However, the issue was not pursued further beyond the questionnaire.

Table—3

Percentage distribution of clients classified according to consultation with wives prior to vasectomy operation.

Count Total %	Consulted	Not Consulted	Row Total
Operated during 1983	162 38.8	51 12.2	213 51.1
Operated during 1984	170 40.7	34 8.2	204 48.9
Column Total	332 79.6	85 20.4	417 100.0

9. CONSULTATION WITH HUSBAND BEFORE OPERATION (TUBECTOMY) :

9.1. Table 4 indicated that 97. 6 percent tubectomy clients consulted their husbands prior to the operation while 2.4 percent did not consult.

Table—4

Percentage distribution of clients classified by consultation with husbands prior to ligation operation.

Count Total %	Consulted	Did not consult	Row total
Operated during 1983	1339 72.0	35 1.9	1374 73.9
Operated during 1984	477 25.6	9 0.5	486 26.1
Column Total	1816 97.6	44 2.4	1860 100.0

10. STATEMENT ON APPRECIATION OF COMMUNITY FOR THE VASECTOMY OPERATION :

10.1. It appeared from table 5 that amongst all the acceptors of 1983 and 1984, 95 percent stated that the member of the community appreciated the vasectomy as a method of contraception.

Table—5

Percentage distribution of clients by community appreciation for vasectomy operation.

Count Total %	Appreciate	Did not appreciate	Row Total
Operated during 1983	205 49.2	8 1.9	213 51.1
Operated during 1984	191 45.8	13 3.1	204 48.9
Column Total	396 95.0	20 5.0	417 100.0

11. STATEMENT ON COMMUNITY ACCEPTANCE FOR STERILIZATION PROCEDURE (TUBECTOMY) :

11.1. It appeared from the table 6 that amongst all the clients of 1983 and 1984, 94.5 percent had stated that the community appreciated ligation operation as a method of contraception while 5.5 percent stated not being appreciated. It was also observed that the rate of appreciation of community was similar during the periods.

Table—6

Percentage distribution of clients classified by community acceptance (Tubectomy) :

Count Total %	Accepted	Do not accepted	Row Total
Operated during 1983	1300 69.9	74 4.0	1374 73.9
Operated during 1984	458 24.6	28 1.5	486 26.1
Column Total	1758 94.5	102 5.5	1860 100.0

12. STATEMENT OF REASONS FOR NON ACCEPTANCE OF TUBECTOMY AS A METHOD OF CONTRACEPTION BY THE COMMUNITY :

12.1. Table 7 indicated that the Tubectomy operation acceptors of 1983 and 1984 stated that 3.9 percent members of the community did not appreciate the method on religions grounds.

Table—7

Percentage distribution of clients perception classified by the reasons for non-acceptance of ligation by the community (Tubectomy).

Count Total %	Not applicable (appreciated)	Religious superstitions.	Method failure pregnancy after ligation.	The procedure is irreversible	Improper distribution of medicine.	Fear of criticism.	Fear of deterioraction of health.	Temporary method is preferred.	Others	Row Total
Operated during 1983	1299 69.8	52 2.8	4 0.2	1 0.1	6 0.3	1 0.1	4 0.2	1 0.1	6 0.3	1374 73.9
Operated during 1984	459 24.7	20 1.1	— —	1 0.1	2 0.1	1 0.1	2 0.1	1 0.1	— —	486 26.1
Column Total	1758 94.5	72 3.9	4 0.2	2 0.1	8 0.4	2 0.1	6 0.3	2 0.1	6 0.3	1860 100.0

Table—8

Percentage distribution of clients by reasons why the community did not appreciate vasectomy operation.

Count Total %	Appreciated	Religious superistition.	Improper distribution of medicine	Fear of deterior-ation of health	Temporary method was prefered.	Others	Row Total
Operated during 1983	205	2	1	3	—	2	213
Operated during 1984	191 45.8	6 1.4	1 0.2	2 0.5	2 0.5	1 0.2	204 48.9
Column Total :	396 95·0	8 1.9	2 0.5	5 1.2	2 0.5	3 0.7	417 100.0

13. STATEMENT OF REASONS FOR NON-ACCEPTANCE OF VASECTOMY AS A METHOD OF CONTRACEPTION BY THE COMMUNITY :

13.1. From Table-8, it is observed that the vasectomy operation acceptors of 1983 and 1984 stated that only 1.9 percent members of the community did not appreciate vasectomy operation on religious grounds.

14. DISCUSSION :

Islam is the predominent religion with 86.6 percent of the population in 1981 census being Muslims. Hindus constitute 12.1 percent of the population. Only 0.9 percent of the population are Christians and Buddists with another 0.3 percent having tribal religions. So it is natural to assume that the community predominently comprising of Muslim population with not appreciate the acceptance of sterilization as a method of contraception. It must have been a Herculean task to overcome the religious supersition in favour of Family Planning through surgical operation on permanent basis. This could not be achieved in a short time. Efforts to control population growth rate in Bangladesh started as early as 1953 on voluntary basis. Subsequently the Government of Bangladesh took it up as an official Family Planning Programme. The First five year Plan 1973-78 gave it a due importance. In 1976 the Population explosion was recognised as Problem number **ONE.** Wholetime field workers were recruited to carry out motivation and provide contraceptive services among the rural population. Since 1977 voluntary sterilization procedure has been receiving utmost attention for expansion, popularisation and refinement along with other methods. There has thus been a cumulative effect of years of hard work.

15. CONCLUSION :

From the survey it has been found that the tubectomy acceptors were appreciated by 94.5 percent of the member of the community during 1983 and 1984. During the same period the vasectomy acceptors were appreciated by 95 percent of the member of the community. So it could be safety concluded that the sterilization procedure has an acceptance by the community in Bangladesh as a permanent Family Planning method.

For the preservation and promotion of the health of the sterilization acceptors and their children, implementation of the Primary Health Care system containg education on nutrition and parasite control is considered necessary. To sustain the prevailing high peak of the appreciation of the sterilization method by the members of the community continuous efforts will have to be made by all concerned.

ACKNOWLEDGEMENT & REFERENCES :

1. Bangladesh Bureau of Statistics—Population Census 1981.
2. Bangladesh Annual Development Programme (1985-86).
3. Bangladesh Fertility Survey (BFS—1975).
4. First Five Year Plan of Bangladesh (1973-78).
5. Population Control Directorate, Government of Bangladesh, Management Information System (MIS), Monthly Performance Report 1983 and 1984.
6. P. and M. Consultants Ltd. Dhaka.
7. Mr. Abdul Khaleque, Clerk-Cum-Typist.

COMMUNITY PARTICIPATION IN PRIMARY HEALTH CARE —AN EXPERIMENT IN COMILLA.

By
Md. Abdul Quddus
Deputy Director,
BARD, Comilla.

Introduction :

The much pronounced Alma Ata declaration is the basis for undertaking primary health care by the member countries of the United Nations, particularly the developing ones, both as a concept and a strategy to ensure minimum health care for their populations by the year 2000. Primary health care as a concept emerged from successful experiments where health care could be expanded to the majority population and their health status could be significantly raised at a low cost and within a short time. Some of these successful experiments are :

(a) The Sarbodaya Shramadana Movement in Sri Lanka.
(b) Gotong Royong (self-help) movement in Indonesia.
(c) Saemaul Undong (New Community Movement) in South Korea.
(d) Community Health Programme in Vietnam and
(e) Bare-foot Doctors Programme in the People's Republic of China.

A close analysis of these projects revealed that community participation was a common and important cornerstone for the success of these experiments and this community partcipation could be ensured in the following ways :

(a) Health care delivery was integrated with the activities of the economically viable community organisations.

(b) With the cooperation of the government officials, these organisations developed their own trained health workers. Elementary health services for the people were rendered by these workers with the input supply and technical supervision from the government health officials.

(c) Local supervision and financial support of these workers, either in cash or in kind, were provided by their own organisations.

(d) People's wisdom was used and people participated very much in identifying their health problems, developing action plans and implementing those plans to solve their many problems mostly by using local resources.

The Context of Community Participation in Bangladesh and the Comilla Experiment :

Community participation is unique to each national and local setting because it is a reflection of social dynamics which are influenced by, among others, socio-economic organisations suitable to the cultural settings and practices. In our country if we like to operationalize Primary health care through economically viable community organisations and their own appointed and supervised workers, we are to see what are the existing economically viable community organisations in our villages. The most common ones we see are the village level cooperatives with all their problems and limitations. These co-operatives were organised by the Bangladesh Rural Development Board(BRDB) based on the Comilla Programme done by the Bangladesh Academy for Rural Development. Considering these village level cooperatives as the much needed organisations to be used as the vehicle for ensuring community participation, BARD undertook an experiment in the name of Rural Health and Nutrition Project (RHNP) to operationalize Primary Health Care through cooperatives with the cooperation of the local Health and Family Planning Department. The experiment completed its fifth year of operation in 40 villages in Comilla Sadar Upazila in June 1985. The present study is an attempt to review some of the activities of the project to see how far it has been successful to obtain its objectives. For the purpose, data from the bench-mark survey (120 random households)—Annual reports on the Project and another survey (154 random households) after the fifth year of operation of the project were used.

FINDINGS :

1. Involvement of the Community Organisations :

The village level cooperatives were organised primarily for agricultural and economic development of the people. So during the initial days of the programme, the project personnel started motivating the cooperative leaders and the members to undertake primary health care activities together with economic development activities. For this the villagers had to conduct a survey, identify the health problems, plan targets for achivement, select their own Village Health Workers and Dais, commit to supervise and financially support (either in cash or in kind) the workers. The initial responses were slow, only five villagers came forward to untake the activities during the first three months. After seeing these villages others gradually came forward and the number increased to 20 at the end of the first year. During the second year, the number increased to 40 when the project stopped further expansion inview of its limited resources. No one of these 40 villages dropped-out till the end of the fifth year.

2. HEALTH MANPOWER DEVELOPMENT :

One of the main reasons of the paucity of health care services, both curative and preventive, at our villages is the very low ratio of health manpower and population. So in a situation where institutional health care is still in a rudimentary stage, it is the private practiticers, both registered and unregistered, who are providing these services. Many Developing countries, could change their health situation by developing trained village Health Workers. In the same manner the project tried to develop village Health Workers trained at Upazila Level by a Training Team consisting of the relevant Upazila Level Officers. In addition to these workers, Village Dais selected by the village level cooperative societies were also trained by the same Training Team. The courses were conducted based on two standard syllabii supported by two individual manuals on Primary Health Care and simple midwifery respectively developed by BARD.

TABLE—1

Number of Village Health Workers (VHW), Village Dais in Rural Health and Nutrition Project Villages.

Health Worker	Bench mark	Second year	Third year	Fourth year	Fifth	% increase
Private Practioners (Resident)	19	19	20	20	21	10.5
Male VHW	0	12	25	20	18	—
Female VHW	0	28	45	44	46	—
Village Dai (trained)	2	51	50	55	54	2600.0
Total :	**21**	**110**	**140**	**130**	**139**	**561.0**

During the project period health manpower at the pheripheral level increased by 561 percent resulting in a higher ratio of health manpower and population in the village communities. Important aspects of this positive change are that most of those came with the private initiative from the village level cooperatives and majority of the workers were females whose retention rate was also higher in comparison to the male ones. These female workers possibly are more suitable for serving the rural women and children, the worst victims of malnutrition and ill-health, atleast with some preliminary health care.

3. ACCEPTANCE OF THE VILLAGE HEALTH WORKERS BY THE COMMUNITY

3.1. First Approach of the Villagers :

In the absence of an institutional health care, the villagers have to go to the local healers for the advice and treatment of their diseases or have to resort to their lot. The project introduced the Village Health Workers through the cooperatives to play the role of 'first one to be contacted' at the pheripheral level to provide advice and treatment of elementary ailments and injuries.

TABLE—2

First Approach of the RHNP Villagers for Ttreatment of Common Ailments and Injuries During 1980 and 1985.

Practitioner	Approaching Households			
	Bench mark	% of responses	Fifth Year	% of responses
Village Health Workers	0	0	88	52.7
Private Practioners	120	96.7	70	41.9
Government Health Centre/ Personnel	4	3.3	9	5.4
	124	**100.0**	**167**	**100.0**

Note : Some respondents had more than one response.

Data on approach of the villagers for treatment of their common ailments and injuries during the period from first to fifth year show that there occured a great change. There was no Village Health Workers at the initial stage, when 97 percent households would approach the private practitioners for the services. Only the rests would approach the government health centres/personnel. During the fifth year, majority (53%) of the households were found to approach the village health workers instead of private practitioners. Proportion of households approaching the government health centres/personnel did not show much change.

3.2. Treatment of Common Ailments and Injuries :

With gradual acceptance of the village health workers as the community health auxiliaries, they provided advice and curative treatment against common ailments and injuries to increased number of people. So within a period of five years of operation of the project, number of beneficiaries of curative treatment per workers per month increased from 117 to 442 (increased by 278%).

TABLE—III

Beneficiaries of Curative Health Care and Advice Through Village Health Workers in RHNP Villages.

Beneficiary/Worker/ Month	First Year	Fifth Year	% increased over the period
Men	27	56	107.4
Women	58	203	350.0
Children	32	183	471.8
Total :	**117**	**442**	**277.7**

The workers provided the curative treatments with the use of diet supplements and some safe drugs. The diet supplements and safe drugs were supplied by the Directorate of Health Services with the help of UNICEF to the MCH Clinic of the project and the Workers collected them from the Clinic on payment of prescribed prices. They prescribed the drugs, with the approval of their cooperative society, to their patients who had to buy the drug at a price 100 percent more than their initial procurement price though still it remained below the market price level. The increased amount was charged as a fee or financial incentive for the workers. As a result of introduction of pricing system of drugs by the project, an amount of about Taka 80,000.00 was accumulated by the end of the fifth year. as a Revolving Fund for continuation of drug supply. The accumulation of this fund gives the hints that introduction of the pricing system of drugs can ensures better utilization of drugs and in the long run can bring about self-reliance in drug supply at every thana. The workers also received about the same amount as their financial incentives.

3.4. Environmental Improvement :

(a) Water Supply :

The rapid spread of communicable and water-borne diseases like diarrhoea, typhoid, dysentry etc. may be attributed, besides other factors to lack of pure water supply. The bench-mark survey also revealed that though majority of the population in the project area used pure water for drinking, but they did not use it for other domestic purposes. The project also introduced an education system for the people to maintain the hand tubewell and use the water for all domestic purposes. The project also introduced a system of involving the rural people to assess the number of government hand tube wells in their locality, indentify the number of such tube wells their comminunity was entitled to get on the basis of population, hand tube well ratio declared by the government and to select the probable sites of the required wells on the basis of criteria. On the basis of these exercises, the Public Health Engineering department installed 90 hand tube wells in the project villages to increase the coverage of population under pure drinking water supply.

TABLE IV

Sources of Water for Drinking and Other Domestic Purposes in RHNP Villages.

Purpose	Surface water				Tubewell water			
	Bench mark		Fifth Year		Bench mark		Fifth Year	
	No. of users	% of total	No of users	% of total	No. of users	% of total	No. of users	% of total
Drinking	19	15.4	1	0.07	101	84.6	152	99.3
Bathing	116	96.7	142	92.08	4	3.3	11	7.2
Washing Utensils	112	93.4	140	91.05	8	6.6	13	8.5
Adding to boiled rice	92	76.8	60	39.2	28	23.2	93	60.8

During the period, percentages of the users of tube well water for drinking and bathing increased from 85 and 3 to 99 and 7 respectively. Percentages of household who used tubewell water for domestic purposes like washing utensils and watering boiled rice overnight also increased from 7 and 23 to 9 and 61 respectively. It was also observed that

tube wells were better maintained by the users. The village helath workers ensured minor repairing whenever it was needed and waste water of the tube wells was used for Nailotica fish cultivation in mini-ponds and vegetables cultivation in nearby lands.

(b) Sanitation :

Fecally related and fecally transmitted diseases like gastro-intestinal infections are caused by indiscriminate disposal of human excreta. Sanitary disposal of human excreta is, therefore, one of the most important preconditions for over coming these public health problems. For this, availability of sanitary facilities and motivation for installation of these facilities are necessary.

The porject, therefore, started and continually operated a demonstration and sale centre of water-sealed toilets for the villagers. The village workers and the supervisory staff of project motivated the villagers to purchase, instal, use and maintain the facilities. The efforts were in addition to and in coordination with those of the Public Health Engineering department.

TABLE—V

Sanitary Latrines and Their Use in the RHNP Villages.

Main user of the households	Bench mark		Fifth Year	
	No. of user household	% of total	No. of user household	% of total
All members	1	0.8	12	9.9
Women and Children	0	0	2	1.3
Male members	3	2.5	10	6.5
Total :	**4**	**3.3**	**24**	**15.7**

Note : Percentages of households using open air for defecation during the bench mark and fifth year were 68 and 24 respectively. Others used some non-sanitary latrines.

The collected data show the number of households having sanitary latrines increased from 3 to 16 and in half of the cases, the facilities were used by all members of the households. The rests of the sanitary latrines were used either by the male members or by women and children of the households.

4. Acceptance of the Trained Village Dais by the Community in the RHNP Villages

4.1. Approach to the Dais :

The available data indicate a gradual acceptance of the trained Dais in place of non-trained ones for the purpose of child delivery. The use of trained Dais for helping the process of child delivery increased from eight percent households to 64 percent in five years. On the other hand approach to the non-trained Dais for the purpose decreased from 87 to 17 percent. Over the period, appraoch to the government clinic/doctor/LHV for the purpose increased from 5 percent to 19 percent.

TARLE—VI

Households Approaching the persons for help in the Process of Child birth Delivery in the RHNP Villages.

Approached persons	Households who approached			
	First year	% of total	Fifth year	% of total
Trained Village Dai	9	8.1	69	63.8
Nor-trained Dais	96	86.5	18	16.6
Clinic/Doctor/LHV	6	5.4	21	19.4
Total :	**111***	**100.0**	**108***	**100.0**

* Responding households were those who had atleast a child born within three years of the date of data collection.

5. Referral Services :

For morbid, severely malnourised, completed delivery cases and also for adopting permanent sterilization methods, a verbal advice from some one in the locality to seek consultation with a local practitioner and treatment in the nearest health and family planning

facility is of immense utility in the rural areas. The village health workers and the Dais took up this responsibility of local advisor for referring such cases to appropriate facilities. Since the workers were trained by the upazila level officials who handle these facilities, they already developed a familiarity with the officials and their staff. From the records of referred cases, it seems that with the gradual acceptance of the Workers by the community and increasing confidence in them the number of referred cases increased from 36 to 821 an increase of more than 21 times over the period.

TABLE—VII

Referal Services Provided by the Health Workers in RHNP Villages.

Problem	Referred Cases		
	First Year	Fifth Year	% increase over the period
Complication of delivery	12	167	1291.6
Complication of illlness	12	241	2008.3
Adoption of permanent method of sterilization	12	413	3441.6
Total :	**36**	**821**	**2280.5**

Besides the activities mentioned above, the community workers introduced a continuing health and nutrition education through the weekly meetings of the cooperative societies. They usually added an additional item on helath and nutrition education on an individial area to the regular agenda of the weekly meeting of the society and follow-up adoption of the knowledge at the individual member level.

CONCLUSION :

The activities of the community health workers could bring about a number of quantifiable changes, some of which have been mentioned above. A number of positive behavioral changes particularly in respect of food of the pregnant mothers, first food of the new-born baby, breast feeding and supplementary food of the children and awareness to family planning are also apparent. But effect of these activities of the workers and participation of the community on overall health and nutritional status of the village communities measured by a number of indicators like mortality, morbidity, food intake, nutritional status are yet to be measured. The real impact of the project will be assessed when we shall be able to assess those. But the experiment proves a significent potential of the village level cooperatives for using as the much needed 'economically viable community organisation' as a vehicle for ensuring community participation in primary health care.

REFERENCES :

1. World Health Organisation, Primary Health Care, Report of the International Conference on Primary Health Care at Alma Ata, Geneva, 1978.

2. Quddus M.A., Rural Health and Nutrition Programme, BARD, Comilla, 1978.

3. Quddus M.A., A.I.M. Islam and M.R. Karim, Evaluation of Rural Health and Nutrition Project, A Cooperative-based Primary Health Care Project in Comilla, Kotwali Upazila, BARD, Comilla, 1984.

4. Bangladesh Academy for Rural Development, Annual Reports 1980-81 to 1984-85, Comilla.

A HOPE FOR CHILD SURVIVAL : GROWTH MONITORING OF CHILDREN IN BANGLADESH.

By
Dr. M.Q.K. Talukder, Ph.D., MRCP
Professor of Child Health
(Nutrition and Gastroenterology)
IPGMR, Dhaka.

Bangladesh is almost the poorest country in the world. The country is beset with problems of poverty, population explosion, ignorance, illeteracy and diseases. Of the odd 100 million people in the country about 50 million are children under the age of 15 years. The infant mortality is one of the highest in the world with 140 death per thousand, 30000 children are becoming blind every year from vitamin A deficiency, 80% of the children suffer from some grade of malnutrition. There is a heavy death from infectious diseases like diptheria, whooping cough, tetanus, poliomyelitis tuberculosis and measles. Infectious such as pneumonia, kidney infections (nephritis) and skin problems are wide spread causing high mortality and ill health. There is very little knowledge among people on matters of health and nutrition. Maternal mortality is very high and mothers have very poor nutritional status. Although Bangladesh is termed as a breast feeding community but colostrum (the first few days yellow milk) in most babies in the villages is not given. There is evidence that for various reason there is lactational failure in the infants in the villages resulting in early malnutrition.

Solving the Problems of Child Health in Bangladesh :

How we can solve the above problems of child health in the country ? Can we at all do something for the childrens survival ? How can we overcome the crisis of dying children in the country ? The longterm solution of child survival, health and nutrition depends on economic growth, social justice, high literacy rate, people education etc. It appears however that there is no chance of economic break through by the year 2000. What then Bangladesh can do for solving the child health problems of the country ? Recently the President, Lt. Gen. H.M. Ershad on the occasion of the laying of foundation stone of the Institute of child health and Research in Dhaka said, despite the country's resource constraints the Government is determined to do everything possible for child health. The government has full support to the policy principles adopted by world Health Organization and UNICEF for better child health. While massive curative health care for the population

of the country is still a dream there are low cost methods available to significantly reduce the incidence of malnutrition, morbidity and mortality in children. UNICEF throughout the world has recently launched to spread the concept of child health revolution based on four relatively simple and inexpensive methods that could enable parents themselves to practice and thereby halve the rate of child deaths by the year 1990. As an acronym these four low cost techniques have become collectively known as GOBI : G for growth monitoring, O for oral rehydration, B for breastfeeding and I for Immunisation. Later with GOBI other F's which stand for food supplement, female for infants, female education and family spacing have been added. This short paper attempts to analyse the role of growth chart and growth monitoring as an affordable tool for the survival of children in Bangladesh.

Using Growth Chart as a Focal point for the Child Health Revolution :

The GOBI—FFF concept shall have to be implemented in the community to make it meaningful. The growth chart which has recently been developed with the members of the National Nutrition Council (NNC) and other experts of the country contains all the messages of the GOBI-FFF. The NNC growth chart is essentially a CHILD HEALTH AND NUTRITION CARD. All components of the growth chart shall have to be taken as an approach for the promotion of good health, prevention of malnutrition and infectious diseases and for the treatment of minor illness. The use of growth chart in the community may be considered as a focal point for child health revolution.

The Health and Nutrition Card (Growth Chart) of the National Nutrition Council (NNC) of Bangladesh :

The health and nutrition card (hence forth shall be called growth chart) has been developed with an aim to use it at the Primary Health Care level. The growth chart shall be used for children of either sex from 0-5 years. The card shall be in possession of the mother. It is expected that the mother shall always turn to the 'card' for any information she wants on the health of her child. The main of all components of the growth chart shall remain growth monitoring. The components of the card are sets of message related to the child's health and nutrition and these are :

1. **Growth chart itself** : For the monthly record of weight for age of the child in kilogram. The 'road to health' band is printed in light green : the lower line represents the 3rd centile for girls and the upper line represents the 50th centile for the boys of the National Centre for Health Statistics standard.

2. **Immunisation** : Six immunisation schedule for children of the extended programme of immunisation.

3. **Family planning** : messages to obtain family planning advise from the appropriate health workers.

4. **Oral rehydration solution for diarrhoea** : Instruction on the preparation and use of home made oral rehydration solution for diarrhoea.

5. **Nutritional support for the mother** : messages on the nutritional support for the mother during pregnancy and lactation.

6. **Breast feeding** : messages on the breast feeding upto 2 years of age with exclusive breast feeding upto 5 months.

7. **Food supplements** : messages with pictures (of commonly available food) 'start the infant on family food from 5 months of age.'

8. **Treatment of child's illness** : there is a record of the child's illness and treatment.

Equipments for Growth Monitoring :

The equipments required for growth monitoring are the (i) growth chart ; (ii) the growth chart manual ; and a (iii) weighing scale.

The growth chart has been developed by the NNC the description of which is given above. The growth chart manual has been written in Bengali giving the usefulness, the various components and the descriptions for how to use it. The growth that chart manual is primarily meant for the trained health workers in the community who in turn hopefully in future shall train the motsers to weigh their children. The weighing scale which is a bar scale has been developed by the NNC and made at the Bangladesh Council for Scientific and Industrial Research. This is a relatively inexpensive weighing apparatus with an accuracy of 20 gramme.

The Usefulness of Growth Monitoring :

The growth and development are the characteristics of foetal life, infancy, childhood and adolescence. A child grows everyday and over years in a predicted way. It is difficult to measure growth of a foetus but it is easy, to measure the growth from birth onwards by taking weight of the child. Deceptively simple, the monitoring of growth in a child is the most scientifically effective way of measuring not only the nutrition and adequacy of diet but also the over all health of the child. Faltering growth is the most sensitive indicator that all is not well with a child. The growth chart offers a simple and inexpensive means of monitoring child health and nutritional status in the community. The slowing do in of normal growth occurs long before the malnutrition is visible. The experience of primary health care and nutrition projects in countries through out the developing world shows that by regular monthly weighing and the use of growth chart, growth faltering and malnutrition can be early detected. The growth chart can be utilised with minimal instruction and supervision. The growth chart, because of its usual character, provides the health workers with a useful instrument for educating the mother and the family. With basic advise on matters of health and nutrition, growth monitoring can help mothers themselves to prevent most child malnutrition. It provides an easier understanding of the nature of growth and shows clearly the consequencess of inadequate food, infections and infectious diseases.

Growth monitoring involves mothers, families and the community—and this may be the starting point of the community participation of mothers in matters of health. It is the only recurring activity in primary health care that serves to bring mother and child into contact with health services on a predictable and frequent basis. It enables health workers and the community to target limited good supplies to the most vulnerable children and to recommend others interventions. Children can be vaccinated by a health worker. Demonstrations of preparing oral rehydration solutions and in some cases distribution of oral rehydration salts can ensure mothers prompt response to diarrhoea in children. Family planning can be discussed and contraceptive materials distributed and resupplied. Periodic deworming, distribution of high potency vitamin A and provision of chloroquine in malarious areas shall all contribute to the success of a growth monitoring activity at the village level.

Who Shall Use the Growth Chart :

The growth chart shall be kept by the mothers at home. She shall take the child to the nearest health services facilities for monthly wieghing. The health worker (medical assistants, family welfare assistants, family welfare visitors, shall be initially responsible to help mother weighing her child. The mother must have the opportunity to discuss on the health and nutritional matters with the health workers. Hopefully in future the health worker shall be able to train the mothers to weigh their own children. In villages of many countries of the developing world mother attend the health clinic to monitors the growth of their children.

Can we Monitor the growth of our Children to save them from Malnutrition, illhealth and death ?

The answer to this question is not easy. For decades the infant mortality in this country had remained high almost the same level. No effective intervention programme to save children has been taken so far. Since people shall remain poor probably for many years to come an organized planning is required involving the administrators, health workers and the people in the community so that we achieve better child health with the limited resources that we have. Growth monitoring is a practical, inexpensive and convenient means for bringing about high coverage community involvement in promotive child health. Growth monitoring is an affordable intervention for better child health on which to build primary health care. The inexpensive components of primary health care contained in the growth chart shall require total support for the success.

Further Reading :

1. **Primary health care issues ; Growth monitoring** : American Public Health Association International Health Programmes 1981.

2. **Hendrata L. and Johnton M** : Manual for community based underfives weighing programme Yayasasan Indonesia Sejahtera 1978.

3. **World Health Organization 1978** : A growth chart for International use in Maternal and Child Health Care.

4. The state of World's Children 1982-83, 1984, 1985 UNICEF.

5. Morley D. Health and weight chart for use in developing countries, Trop Geogr, Med. 1968 : 20 ; 1901.

6. Morley D. Growth charts, "curative" or "preventive" Archieves of Diseases in childhood 1977 : 52, 395.

7. **World Health** : The magazine of the world Health Organization October, 1984.

IMPROVEMENT OF NUTRITION IN RURAL BANGLADESH

By
M.A. Mannan
Deputy Secretary
National Nutrition Council.

INTRODUCTION :

Nutrition is a multidisciplinary subject. An increasing number of individuals and agencies involved in social, political and economic development are now concerned about nutrition. They are recognising it as an important topic for discussion in different forums. Nutrition is also considered as an important indicator for national development. Man is the architect of development and the quality of human life is the ultimate measure of development. Manpower is one of the main resources of Bangladesh. They may be an important asset if they are developed physically and mentally and employed properly in developmental works. Adequate food and good nutrition are the pre-requisites for improvement of the quality of life. Physical and mental development of an individual depends on adequate nutrition, the source of which are foods. The nutrients like carbohydrate, protein, fate minerals, vitamins and water are essential in appropriate quantity throughout the life, from, preconception to death. All goods do not have equal nutritive value. Diverse kinds of foods complementary to each other are required for maintaining good health. The requirement of nutrients in respect of quantity is different from person to person with age, sex, physiological and occuptional status. Food alone could not help maintain good health. Environmental sanitation, personal hygiene etc. are also important for good nutrition.

DEMOGRAPHY :

In 1983, an estimated total population of Bangladesh was 94.7 million in which 48.7 million were male and 46.0 million were female.[1] About 85 percent of these population live in rural areas. Most of them are directly or indirectly dependant on agriculture. Women constitute about 49 percent of the human resource. Majority of these women are illiterate, ignorant and economically dependant. The childrens of age group 0—14 years constitute 46.6 percent of the total population. Most of these children are also living in rural areas. Population of this country is increasing day by day but the cultivable lands are not increasing. The average size of the farms are becoming small due to separations of the family members. The families are gradually becoming landless. The rural peoples are faced with a number of problems. Malnutirtion is one of the most serious problem among these.

NUTRITION SITUATION :

Undernutrition and malnutrition are widespread and apparently increasing problem in this country. About 95 percent of the total population could not consume an adequate quantity and quality of foods. The vlunerable groups particularly the under five childrens, pregnant and nursing mothers are the most severely affected. Malnutriton begins during fetal development. Miscarriages and still births are common in this country. A high percentage of babies are born with low birth weights i.e. below 2.5 kg at birth. That means a high percentage of children are malnourished from birth. For many children, the situtation never improves. Various nutrition surveys carried out in this country have documented clearly that inadequate calorie intake is the principal impediment to better nutrition. It was reported that in 1962-64 average daily per capita calorie consumption was 2301[2], in 1975-76 it had gone down to 2094 calories per day[3] and in 1981-82, it had further gone down to 1943 calories[4]. The industrial labour forces are severely malnourished and their average calorie intake was 1688, only 78 percent of the requirement as found in 1981-82 survey. Consumptions of protein also dropped in 1981-82 by 17 percent over 1975-76 and by 16 percent since 1962-64. Availability of proteins on per capita basis is marginally close to metabolic requirement, but skewed distribution has led to much visible protein malnutrition. The proteins ingested is converted to energy to meet the calorie deficiency rather than is able to perform its body building activities. In rural areas thus marasmus and marasmic-kwashiorkor is widespread.

Average daily intake of dietary fat (Primarily from vegetable oil) was found to be severely deficient in 1981-82 at 9.8 gm per capita which represents only 25 percent of the WHO/FAO recommended level. Average per capita fat consumption also declined by 19.7 percent since 1975-76. The intake of fat among rural poor is only 4.4 gm per capita per day which is only 10 percent of the requirement. Actually the lower income groups and the landless groups consume fat from non visible sources due to limitations of their purchasing power for extracted oils. The changes in per capita food intake by their source is shown in Table—1.

TABLE—I

Change in per capita food intake in Bangladesh by their sources (1981—82 compared to 1975—76)

Source	Intake level per person per day		Change	+ Increase % — Decrease
	1975-76	1981-82		
Total intake of foods (gm)	807.30	788.00	(—) 19.30	(—) 2.40
Animal food (gm)	44.00	44.00	(+) 0.00	(+) 0.00
Cereals (gm)	523.00	493.00	(—) 30.00	(—) 5.70
Pulses (gm)	23.80	9.00	(—) 14.80	(—) 62.20
Fish (gm)	22.30	24.00	(+) 1.70	(+) 7.60
Vegetables (gm)	125.70	130.00	(+) 4.30	(+) 3.40

Source : Computed from Institute of Nutrition and Food Science, University of Dhaka, Nutrition Survey of Rural Bangladesh.

The pulses intake has been drastically reduced from 23.8 gm in 1975-76 to 9.0 gm in 1981-82. This is really a dangerous consequence. The reduced intake of pulses may cause incidences of protein calorie malnutrition among the children, leading to higher morbidity and mortality.

A number of households deficient in nutrient intake are shown in table 2 computed from the Nutrition survey in rural Bangladesh in 1981-82 by the institute of nutrition and food science, University of Dhaka.

TABLE—II

Distribution of Households Meeting Proportions of Selected Nutrients Requirements in 1981-82.

% of Requirement	Percent of households meeting					
	Calorie	Protein	Calcium	Vitamin'A'	Riboflavin	Vitamin'C'
Less than 50	8	5	64	82	54	65
50-59	10	5	8	1	15	7
60-69	14	9	9	1	10	5
70-79	17	12	5	2	10	4
80-89	15	12	5	1	5	3
90-99	12	9	2	1	3	3
100-and above	24	48	7	12	3	13

It reveals from the table that about 76 percent of households were deficient in calories, 52 percent in protein, 93 percent in calcium, 88 percent in Vitamin A, 97 percent in Riboflavin, and 87 percent in Vitamin C.

Vitamin A deficiency is widespread leading to different degrees of blindness from night blindness to Keratomalacia (complete blindness). About 25,000-30,000 per-school children are becoming blind every year due to vitamin A deficiency. Iodine Deficiency Disorder (IDD) is highly prevalent in this country. More than 10.5 percent of the total population are the victims of this disorder.[5] Besides, lathyrism, nutritional anaemia etc. are also prevalent in Bangladesh.

Improvement of Nutrition Intervention Programme :

The magnitude and severity of malnutrition in Bangladesh require immediate nutrition intervention programmes and political commitment of the Government for conditions to be alleviated.

All programmes to prevent malnutrition in the country should start initially with the mothers and mothers to be. Because the pregnant and nursing mothers and the children are the most deprived in the society. A mother should be well-nourished before the conception so that she has adequate reserve of nutrients for better development of her offspring. But ignorance and superstition prevailed in the society deprive these mothers of many nutritious foods that are very much essential for her. So, nutrition education is important to aware them. Mothers should be taught that in any way, the birth weight of their child will not be less than 2.5 kg. After the baby is born, it must be immediately breast fed. The colestrum is very important for the newborn. Because it is rich in nutritient and infection preventing substances. Breast feeding is now of fundamental importance in prevention of malnutrition. So mothers should be advised to continue it as long as possible. But there is need for supplementary feeding of the baby starting from the age of 4 to 6th month, when breast milk is not enough to meet the requirement of the child.

Infection is another cause of childhood malnutrition. Malnutrition and infection are twin companions that are mutually synergistic. More than 75 percent children carry intestinal worms and equal number of children are malnourished. It is important that periodical deworming programme should be undertaken throughout the country at least once in six month. Some common infections such as diptheria, pertussis, tetanus, polio, measles and tuberculosis are also open the door to malnutrition. Immunization programmes against these infection should be further expanded on behalf of better nutrition. Diarrhoeal diseases are considered as a killer diseases for the children.

It might be controlled by using ORS/ORT at every household. Besides, supply of safe drinking water, provision of low cost water sealed latrines and personal cleanliness in daily life are also important for better nutrition.

Nutrition surveillance system is important to indentify the more needy and nutrient deficient area for taking appropriate measures to meet the problem in time. Surveillance can be of great importance in dealing with PEM in collective situations. The child 'at risk' should be given priority in receiving special care. Some equipments necessary for the surveillance effort should include tools for anthropometric data gathering. Immunization materials and food rich in calories, proteins and other nutrients. Growth monitoring in children may be the most important and meaningful programme in the field of nutrition. We in the National Nutrition Council, Bangladesh have developed a simple unified growth chart, a NNC—weighing scale and a manual for using growth chart for growth monitoring of under five children in Bangladesh. These will be field tested in eight selected areas (Two in each administrative division) soon. This programme will also identify the children 'at risk' group. And accordingly resources for the prevention and treatment of malnutrition may, therefore,

be mobilized and made readily available for them. Community participation is very much essential for this programme.

The distribution of high potency vitamin A capsule programme should be continued for prevention of nutritional blindness. Besides, the production and consumption of yellow, green leafy vegetables and fruits at the homesteads should be encouraged. Mass media Authority may assist in motivation and aware of the people on the gravity of the problem of vitamin A deficiency and means of its eradication. They may also help disseminate the exact cooking process of the vegetables for the availability of maximum nutrients.

The eradication of Iodine Deficiency Disorder from this country is also important. BSCIC has taken up a programme to iodise the common salt with UNICEF Assistance. In Bangladesh there are 212 salt crushing units/refineries Salt iodation plants will be installed at these salt crushing units for iodation of salts. It was estimated that the cost of salt iodation will not exceed Taka 3.00 per maund. We, the National Nutrition Council have already drafted an ordinance for salt iodation which is now under active consideration of the Ministry of Law and Justice.

A National Committee for Policy decision and a working group for monitoring the salt iodation programme have been formed. Besides, Lipiodol Injection programme for eradication of goitre from highly endemic areas has been undertaken. Further research and investigation on this subject (like estimation of iodine in urine, follow up of the sizes of goitre, causes of goitre etc.) are necessary.

Nutrition education and use of mass media for disseminating nutrition messages for awareness of the people should be further strenthened. The National Nutrition Council has already made an arrangement with the concerned Radio and Television authority for disseminating nutrition knowledges/messages.

The food and agricultural policies of the country should be formulated in a way that it provides essential nutrients to the people at a reasonable cost. For increase of food production, supplies like seed, fertilizer, credit, insecticide, water etc. in requisite quantity and at times of need are essential. Assured market is also important without which production can never be raised. The Priority in food production must be fixed on nutritional point of view. High yielding varieties and economically profitable seeds should be made available to the farmers. Plant protein sources like pulses production should be emphasized on priority basis in large scale. Extensive fish culture is necessary for minimising protein gap. Backyard poultry farming should be encouraged in rural areas through special programmes and necessary vaccines and other technical supports in this respect should be made available to the rural people.

A nationwide and organised effort is necessary for creation of employment opportunity and income generating activities in the rural areas particularly for distressed women and the landless. Cottage industries for making handicrafts, pottery, cattle, fattening,

carpentry, backyard poultry, pisciculture, Mason training, small food preservation and processing industries etc. Should be attempted for raising income of the rural poors. These may be attempted through small groups or co-operatives.

CONCLUSION :

The solutions of nutritional problems in an isolated way are quite difficult and are interlinked with a number of factors and constraints. These demand policy and action programmes in all Governmental ministries, departments and agencies. Nutrition delivery is multidisciplinary and involves all ministries, agencies responsible for the welfare of the people. A strong co-ordination among the concerned organisations, agencies, ministries are essential for effective programmes for improvement of nutrition in rural areas. An integrated approach with firm commitment of the Government can only improve the precarious situation of malnutrition. We have to realise that the gap between need and intake is becoming bigger, the people are becoming weak, loosing the resistance power to diseases. About 13 percent of the under five children were found to be both stunted and wasted (i.e. they suffer current acute and chronic undernutrition). Child wastage is a serious cause for higher birth rates. So, if we want to popularies family planning, we should have to give gurantee to the couple for a wellnourished child in good health with good chance of surviving. Nutrition policy and programmmes for Bangladesh formulated by NNC should be implemented for better nutrition of the people immediately on priority basis.

REFERENCES :

1. Statistical Pocket Book of Bangladesh (1983), Bangladesh Bureau of Statistics.
2. Nutrition Survey of East Pakistan, 1962-64, US department of Health Education and Welfare.
3. Nutrition Survey of Rural Bangladesh, 1975-76, Institute of Nutrition and Food Science, University of Dhaka.
4. Nutrition Survey of Rural Bangladesh, 1981-82, Institute of Nutrition and Food Science, University of Dhaka.
5. Report on National Goitre Prevalence Study of Bangladesh, (July 1981 to December 1982), Institute of Public Health Nutrition, Dietetics and Food Science, Mohakhali, Dhaka.

MALNUTRITION AND CHILDHOOD BLINDNESS

By
* *Prof. M.H. Rahman,*
* *Prof. M.A. Jalil*
* *Dr. Nicholas Cohen.*

INTRODUCTION :

Blindness is the ultimate sequel of the acute eye diseases due to continued identified etiology like infection, injury, malnutrition, cataract, trachoma, glaucoma, retinal involvement from disease like diabetes etc. It is a great human and social tragedy and a drain to economy of the countries affected by this tragedy. It has been estimated that there are altogether 50 million people with severe visual loss in the world. A major portion of this blindness is encountered in the developing countries. Again, a greater percentage of this blindness either can be cured or prevented by reasonable deployment of skill and resources whether it may be infectious, metabolic or nutritional in origin.

BLINDNESS IN BANGLADESH :

Though there is dearth of reliable data on blind people in Bangladesn including those who are already blind or at risk of lossing their eye-sight, there are, however, studies as well as professional impression based on experience indicate that prevalence of eye diseases with high risk of complete blindness are quite high in rural Bangladesh and in urban slums.

Applying W.H.O. criteria it is estimated that the blind population in Bangladesh will be about 18,00000 and about 50,000 cases occur annually, 75-80% of which can be prevented and cured. General impression of the ophthalmalogist is that cataract in the adult and nutritional blindness (due to Vitamin-A deficiency and portein energy malnutrition) in children are the two common causes of blindness in Bangladesh.

---

* *Ex. Prof. NIPSOM and Founder Director I.P.H.N., Dhaka.*
* *Ex. Add. Director Blindness prevention Programme Bangladesh.*
* *Country Director H.K.I. Dhaka, Bangladesh.*

For more than a decade, the huge dimensions of the Nutritional blindness problem and its immediate origins-Vitamin-A deficiency generally associated with protein-energy malnutrition have been known. A programme of Ministry of Health for the prevention of Nutritional blindness with assistance of UNICEF for the last few years by supplying high doses of vitamin-A to children below 6 years of age which may have saved the eyes of some 80,000 children.

Yet many thousands of children specially from poor and landless rural house holds, are still being needlessly and irreversibly blinded each year. Indeed the rates of eye damage from vitamin-A deficiency (xerophthalmia) remain so high in Bangladesh as to be comparable, even in years without acute pressures on food supply, to only a few other countries in Asia. Against this background, a national study of eye disease and nutritional status in early childhood, the age at which most, blinding lessions occur, was conducted jointly by the Government of Bangladesh and H.K.I. A part of this study was conducted to asses impact of general nutritional status of children vis-a-vis xerophthalmia for formulating proper strategy of intervention of blinding malnutrition in Bangladesh.

STUDY DESIGN :

For this study, a sample size of about 20,000 children under six years, the most vulnerable age range, was calculated on the basis of estimated prevalence of corneal involvement. A stratified, multistage sample technique then led to the definition of 83 representative sits in 19 of the 20 greater districts, of the country. Countrywide rates were standardised by the direct method for differences in the contribution of each district to the study population, using area estimates from the 1981 census.

Four teams completed the field work, from December 1982 through April 1983,. In order to reduce bias, the teams were "crossed-over" between different regions. 1982 was a relatively good year for food production in Bangladesh. The study also ran through a main harvest period, the dry season and therefore best for travel, when diarrhoeal incidence and measles were low. The prevalence estimates for eye lesions and malnutrition were therefore conservative.

The anterior segment and adnexa of the eyes of children were checked at each sites by an ophthalmologist, using standardised techniques. Corneal erosions or ulceration, were confirmed by flurescein staining.

The result presented here includes xerophthalmia prevalence as well as general nutritional status (PEM) of targetted sampled children.

RESULTS :

From 11618 households, 19317 preschool-age children were listed and the eyes of 18660 (96.6%) were examined. Nutritional status measurements were made on 879 exrophthalmic children and on 3564 children with no eye signs or symptoms of vitamin A deficiency. The following high lights of the findings, among others were listed.

1. Nutritional blindness is by far the most important preventable cause of loss of sight and damage to vision in Bangladeshi children.

2. Vitamin A deficiency and protein-energy malnutrition are together responsible for 30,000 preschool age children being needlessly blinded each year.

3. Since many blinded children die within a few months, at anytime about15,000 pre-school-age children are surviving irreversibly blind. The prevalence of bilateral blindness in early childhood is 6 per 10,000.

4. About 75% of children are blinded from corneal damage due to vitamin A deficiency and malnutrition alone, or in association with measles and diarrhoea.

5. Eye trauma, harmful treatments, congenital cataracts, and retinities pigmentosa are other causes of preschool-age blindness.

6. Countrywide, 60,000 preschool-age children are surviving at any time with visual inpairment due to corneal damge or lens opacities.

7. Each year 900,000 children under the age of six years suffer from some forms of eye disease (xerophthalmia) due to vitamin A deficiency.

8. Over 3% of preschool-age rural children were night blind and 1% had conjuctival involvement. Rates for all forms of eye disease were higher in urban slums.

9. Prevalence of active corneal lesions immediately thretening sight was 10 times in excess of World Health Organizational threshold criteria.

10. Prevalence of corneal scars was 25 per 10,000 in rural preschool-age Children.

11. Almost 4% of all children develop corneal involvement before the age of six years.

NUTRITION AND EYE DISEASE :

The scale of malnutrition and resulting eye disease among children in Bangladesh is worst in the world along with few other developing countries. Each year 30,000 children are blinded due to vitamin A deficiency. Over the last decade, one in five preschool-age children have been acutely malnourished and three quarters suffered from chronic malnutrition. Malnutrition is one of the major cause of death in early childhood.

The period of poorest nutritional status covers the ages of one to three years. Despite breast feeding continuing for two years in over 85% of infants, energy and protein in takes are about half of international recommendations. Around 60-70 K calories per Kg. body weight per day and between 1.2-1.5g. of protein/kg/day are consumed by children under 30 months. Vitamin A consumption is also low, most being derived from breast milk. Seasonal variation in nutritional status is marked ; the worst times are during the monsoon until the next main harvest.

Measurements of growth, such as weight for height, height for age, weight for age and arm circumference are sensitive indicators of subsequent risk of death. One year old children who are severely malnourished have a seven-fold increased risk of dying over the next two years. Mild and moderate degrees of malnutrition similarly are associated with increased mortality. Indonesian children with mild xerophthalmia also have higher death rates, around four times those of other children.

With rapid population growth and increases in size of urban slums of about 10% per year, preschool-age children are becoming even more vulnerable to the effects of acute food shortage due to poverty. Even in this context, some children do better than others. Where should this be ? The question of eye disease is covered in a key results report. Here we focus on nutrition, especially the links between malnutrition and eye diseases.

Children' eyes examined from 83 rural sites.	18,660
17 urban slums	3675
Weight and height measured (all with xerophthalmia and 1 in 5 sample of others)	
Rural sites	4443
Urban slums	875

NUTRITIONAL STATUS OF RURAL CHILDREN :

FIG (1)

1. Malnutrition in children is best defined in terms of effects on growth measures, such as weight and height, are very sensitive to changes in food intake.

Measurements used for comparisons may be related to any reference population whose children are adequately fed. In this study the nutritional status indicaters have been related to north American (NCHS) values our results are generally expressed as standard deviations (SD) from the reference population median.

For any nutritional indicator, at any age, about 2.5% of even well-nourished children will fall below a minus two standard deviations (—2 SD cut-off point).

Values of weight for height and height for age below-2SD from the reference median are defined as wasting and stunting. Also percentages of the reference median have been used to categories malnurished children (i.e. below 80% of median weight for height-wasted, below 90% of median height for age stunted.)

Low weight for height indicates acute malnutrition. This index is sensitive to short term changes in food supply. Low height for age reflect the cumulative effects of malnutrition.

STANDARD DEVIATIONS FROM THE MEDIAN, WEIGHT FOR HIGHEST.

FIG (2)

1. The distribution of weight for height for rural children showed a dramatic shift to the left of expected values (i.e. more children) were beyond the reference median.)

2. Two indicators of growth, weight for height and height for age, can be combined to show the proportions of children wasted and stunted, wasted only and stunted only. Ref.—Fig.-3.

3. Stunting was most common during the second year of life and was less prevealent in older children. The proportion of wasted children remained relatively high.

4. Under the age of five years, 19% of males were wasted compared with 13% of females. Sixty percent of both males and females were stunted. These findings are in marked contrast to previous studies.

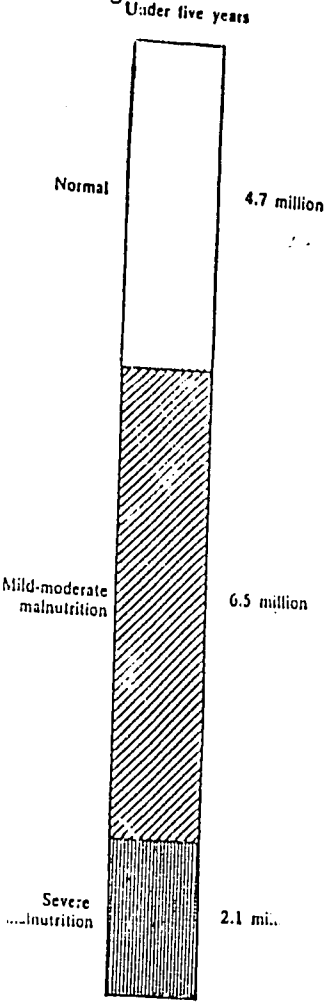
5. Although this survey of nutritional status was the largest conducted since 1962-64, and covered 19 of the 20 greater districts, the numbers of children measured were two small to make reliable comparisons between districts.

RURAL-URBAN SLUMS COMPARISONS :

FIG (3)

Acute food shortage is a cause of people moving from villages into urban slums. About third of urban dwellers currently live in such slums (UNICEF estimate). In this study urban slum children were more wasted, but less stunted, than rural children. Of the 300,000 slum children below five years old, living in the metropolitan areas of Dhaka, Chittagong, Khulna and Rajshahi, we estimate that about 60,000 are acutely malnourished and 150,000 are chronically malnurished.

Fig - 1



Nutritional Status of under five children

Fig - 2

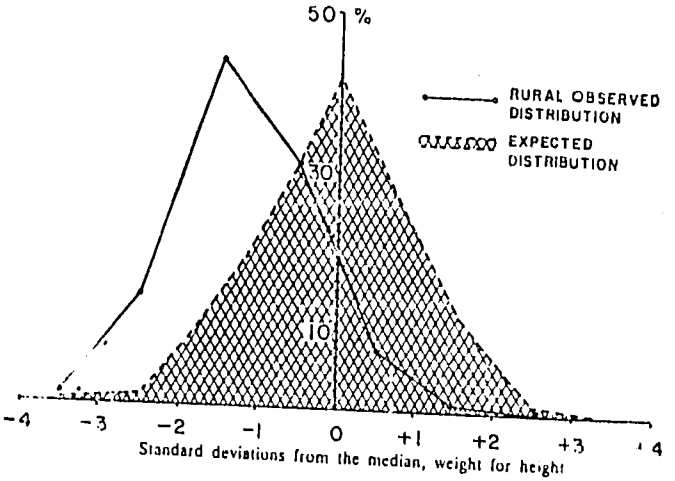


Fig - 3

The distribution of weight for height for rural children showed a dramatic shift to the left of expected values (i.e. more children were beyond the reference median).

Two indicators of growth, weight for height and height for age, can be combined to show the proportions of children wasted and stunted, wasted only and stunted only.

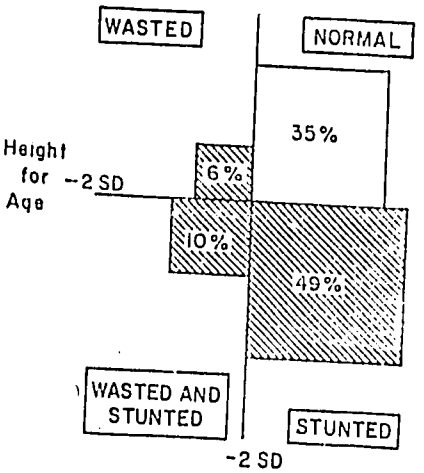
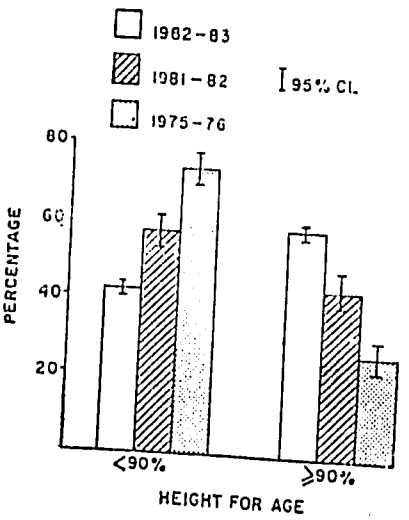
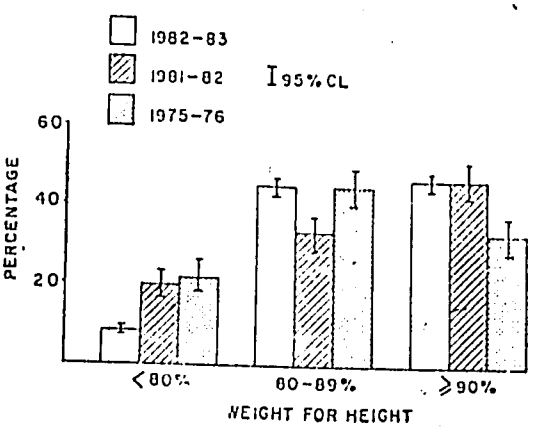


Fig - 5



TIME TRENDS

Fig - 4



Girls aged two to three years in urban slums, were two to three times more likely to be wasted than rural girls. However, there was no difference, in nutritional status for boys. These findings in slums could explain the poor nutritional status of girls observed in some studies during times of greater food scarcity.

TABLE—I

Wasted Only

Age (Years)	Rural Areas		Urban Slums	
	Males %	Females %	Males %	Females %
2	10.8	8.4	11.8	20.8
3	6.3	3.8	5.9	12.9

TIME TRENDS :

FIG 4

Wasting (weight for height below 80% median) and stunting (height for age below 90% median) were much less prevalent than in 1975-76 and 1981-82. A femine preceded the 1975-76 survey, but food economy was similar from 1981 though 1983. The amount of wasting and stunting was probably over-estimated by the 1981-82 study which only measured about 500 preschool-age children (diagram 5.)

MALNUTRITION AND EYE DISEASE :

Xerophthalmic children were more severely malnourished than other children the distribution of children beyond the median was shifted to the left, indicating a worse nutritional state.

Children with active corneal lesions, immediately thretening sight, were much more wasted and stunted than those with less severe disease. Growth indicators used were within definitions of normal for three out of the 14 children with active corneal disease.

TABLE—II

Xerophthalmia type	No. of Children %	Wasted only %	Wasted and stunted %	Stunted only %
Night blind	655	6	18	56
Active corneal lesions	14	7	43	29
Corneal scars	37	3	27	38
Non-xerophthalmic	3424	6	10	50

CONCLUSION :

Blindness due to malnutrition is the dominant cause of loss of sight and impaired vision in preschool-age children in rural Bangladesh. Vitamin-A deficiency is the prime cause of this blindness, which follows the following process of Pathogenesis, Night blindness, Conjunctival xerosis, cornial xerosis, ulceration of the cornea melting of the cornea and ultimately complete loss of sight, all these processes are commonly termed as xerophthalmia. This xerophthalmia is more severe in Preschool-age children whose general nutritional status is poor. In other words whose children suffering from protein energy malnutrition will also suffer from acute vitamin-A deficiency leading to blindness. P.E.N. has the hastening effect of vit. A defiency and make the victims more vulnerable to blindness.

The deficiency of nutrients not occure singly. Always a number of nutrients are found deficient in a person who shows the menifestation of severe form of malnutrition.

In planning prevention of nutritional blindness the supply of the missing prime nutrient alone (i.e. the vit-A) may not have the desired impact for its solution,. It requires other intervention which will take into consideration of over all improvement of the nutritional status of the targetted children including the Control of Protein energy malnutrition and other deficiencies.

IMPORTANT REFERENCES SITED :

1. Bangladesh Nutritional Blindness study : Key Results-1985 H.K.I. (Helen Keller International) and IPHN.
2. State of World's children report 1984 : UNICEF, 1983, Newyork.
3. Kiel mann A.A. : Maclord C. weight for age as an index of risk of death in children-1978 Lance-1-1274-125.
4. Measuring change in nutritional status : 1983, W.H.O., Geneva.
5. Keller W. Fillmore C.M. Prevalence of protein energy malnutrition. : 1983 world health statics quarterly 36 : 129-167.
6. Nutrition surveys of Rural Bangladesh ; 1975-76, 1981—82, INFS. Dhaka University.

PREVALENCE OF ANAEMIA IN INFANTS OF A PRIVILEGED COMMUNITY 1984-85.

By
Muttalib M.A., Wahed And (Miss), Collins C.E.
Community Health Research Association, Dhaka.

INTRODUCTION :

Anaemia is a condition in which the haemoglobin content of blood is lower than the normal value for the individual concerned, as a result of deficiency of one or more essential factors, whatever the cause may be.

In developing countries, anaemia is stated to be a major problem of public health. It is regarded as an indication of the level of nutritional status of the community.

In detecting and evaluating an anaemia problem in a community, reference standards for the population are necessary. Normal haemoglobin levels vary with age, sex, weight, physiological conditions and the attitude at which the population is living for some period. It is recommended that anaemia should be considered to be present in those whose haemoglobin levels are lower than the figures given below (the value given are in gm/100 ml. of venous blood of person residing at sea level.)

Children aged 6 months—6 years—11 gm%
,, ,, 6 years—14 ,, —12 gm%

Adult male 13 gm%
,, female 12 gm%
,, ,, pregnant 11 gm%

The haematocrit values corresponding to the haemoglobin concentration given above may be obtained by multiplying by a constant factor "3" (WHO tech. Rep. ser. 1986, No. 405).

The WHO study group in 1958, recommended the consideration of the different aspects of the haemopoitic system which are factors in the causation of anaemia. These are :—

1. Availability of iron in the food.
2. Absorption of iron.
3. Natural and/or pathological loss of iron from the body.
4. Intrinsic factor.
5. Vitamin B12.
6. Folic acid.
7. Protein.
8. Hormonal equilibrium.

Anaemia has been stated to be present in Bangladesh to a high proportion, as high as more than 70% (Nutrition survey of 1962-64 and Dhaka University study of 1975-76) However, this is not agreed by other workers (Muttalib). The factors responsible for haemopoiesis are to be considered while considering the problem of anaemia in any country. In Bangladesh, intake of iron has been stated to be much higher than the daily iron requirement, viz. at the age of 1—3 years 101%, adolescence 190%, at adult-hood 644% (NUTRITION IN HEALTH" organised by IPHN held at Dhaka 26,27,28 Nov. 1979). If this be a fact, the prevalence of iron deficiency anaemia cannot be of such a high proportion. In considering the other factors viz. absorption of iron and the natural loss of iron, these should take place in a normal proportion unless and until on some disease condition or some physiological anomaly exists. The other factors viz. Intrinsic factor, vit. B12, folic acid, protein and hormonal equilibrium are expected to be normal unless and until some physiological or pathological anomaly is present.

Subsequently in 1961 WHO under took a study in number of countries. At the 1962 conference, WHO Technical study group suggested the following examinations could be undertaken to detect anaemia, preferably a number of examinations to be done at a time.

In whole blood :—

1. Haemoglobin-calorimetric, standardised.
2. Packed cell volume (haematocrit value).
3. Average lobe count of polymorph nuclear leucocytes.
4. Morphological changes of R.B.C.

In the serum :—

1. Iron.
2. Percentage saturation of transferrin.
3. Vit. B12 folate.

The most reliable method to estimate haemoglobin is stated to be by standardised calorimetric method, where cyanide solution is used. The maintenance of the instrument, its standardisation, the risk of handling the chemical, and also the cost of instrument, prevents its use as a routine procedure.

Not all the standard methods of haemoglobin estimation are available as routine in Bangladesh. Only in a few well-equipped institution are different methods available, alone or in comb nation. Most of the pathological laboratories, depend on either the rough blotting paper method or on the Sahli's haemoglobinometer.

In these methods, reading varies with the observer and the standard of Sahli's haemoglobinometer varies with different manufacturers probably also with time. Hence there may be a wide variation in the reporting of heamoglobin level of a particular specimen. The haemoglobin level of a single specimen using Sahli's method may be 0.5-1 gm. less than that obtained using the calorimeter or haematocrit methods.

The estimation of folate and others are also costly, time consuming and only avilable in specialised institutions. WHO recommends the use of micro-capillary haematocrit method as a rapid, simple, reliable and reproducable method of haemoglobin estimation with possible error of 0.02% (Bauer, Ackermann and Toro, 1974).

The infant population of an urban area belonging to a privileged community were take under this study. This population is supposedly having all the modern maternal child care knowledge and facilities in different proportions.

Material Methods :

All the infants seeking admission at the Children Health Centre, were subjected to estimation of PCV. Some specimens were examined by Sahli's haemoglobinometer of different makes, viz.

1. American opticals.
2. West German.

The PCV was done with Clay Adams Readacrit instrument, blood was collected in heparinised micro-capillary haematocrit tubes length 75 m.m. ID 0.5 m.m. with a calibration at 60 m.m. level and the tube sealed at the other end before being put in the centrifuge. The reading is obtained using the built-in scale incorporated in the instrument.

RESULTS :

Table—I : shows the mean PCV values with standard deviation and sample number in each group, age from 1 month to 24 months along with the percentage of possible anaemia in this group (calculated according to method given by Bauer, Ackemann and Toro 1974).

Table—II : presents the mean weight at admission in each group from age 1-24 months.

Table—III : presents the distribution of the mother's education status and its relation to infant's haemotocrit value,

Table I
Anaemia by Haematocrit method

Age by month	Pcv mean	Pcv SD	n	anemia %	age by month	Pcv mean	pcv SD	n	anemia %
1	37.69	5.8	65	38.46	11	34.1	2.54	27	0
2	32.1	3.57	49	33	12	33	3.01	10	0
3	33.45	3.27	44	25	13	32·6	3 86	18	11.1
4	33.26	2.8	57	17.54	14	33.77	3.56	9	0
5	33.6	1.9	23	8.6	15	33.37	2.61	8	0
6	34.42	2.55	38	7.89	16	32.7	4.17	17	17.64
7	34.13	2.62	30	3.3	17	33.66	2.23	9	0
8	34.23	2.52	13	0	18	33	3.02	8	0
9	34.8	3.9	10	10	19	34	2.96	6	0
10	33,58	3.74	12	0	20	31.25	6.39	4	25
					21	34	2.07	8	0
					22	33.66	3.26	6	0
					23	33.85	2.85	7	14.28
					24	28.58	16.91	5	20

Table II

Mean Weight of infants at the time of entry

Month	Sample No.	Weight	SD	month	Sample No.	Weight	SD
1 month	67	3.9	0.7	16	8	9.09	1.69
2 ,,	55	4·7	0.79	17	9	9.16	1.01
3 ,,	67	5.7	1.00	18	9	9.85	1.58
4 ,,	59	6.2	1.20	19	7	9.11	1.34
5 ,,	24	6.48	0.91	20	4	10,85	0.85
6 ,,	43	7.28	0.99	21	9	9.83	0.96
7 ,,	32	7.44	0.92	22	7	10.08	2.22
8 ,,	15	7.36	0.43	23	8	10.52	1-72
9 ,,	10	7.92	1.21	24	6	9.65	1.33
19 ,,	13	7.59	0.76				
11 ,,	31	8.17	0.91				
12 ,,	12	7.9	1.30				
13 ,,	21	8.54	1.75				
14 ,,	11	8.53	1.00				
15 ,,	8	8.12	1.28				

Table III

Pcv. Values of children according to mother's education rate

Grade of education	Sample of mother	Proportion to total mother	mean Pcv.	SD
A	11	1.95	35.63	4.1
B	83	14.74	33.6	3.95
C	135	23.97	33.82	4.23
D	158	28.06	34.24	3.49
E	94	16.69	33.8	3.13
F	82	14.56	34.4	4.05
	563 total mother			

Table IV

Number of Sibs in this Population

Number of child	Number of mothers	Percentage
1	332	56.46
2	167	28.4
3	59	10.03
4	18	3.06
5	6	1.02
6	3	0.51
7	Nil	Nil
8	1	0.17
9	2	0.34

Table V

Mother's age Scatter. (Total no. of mother 559)

Mothers age	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
No. of mothers	4	13	10	62	24	74	35	40	96	40	33	55	18	38	3	14
Percentage	0.71	2.32	1.78	11.1	4.3	13.23	6.26	7.15	17.17	7.15	5.9	9.83	3.22	6.8	0.53	2.5

Table VI

Weight of infants at admission as per age in month.

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
N	67	55	67	59	24	43	32	15	10	13	31	12	21	11	8	18	9	9	7	4	9	7	8	6
Mean	3.9	4.7	5.7	6.2	6.48	7.28	7.44	7.36	7.92	7.59	8.17	7.9	8.54	8.53	8.12	9.09	9.10	9.85	9.11	10.85	9.83	10.08	10.52	9.65
SD	0.7	0.79	1.00	1.20	0.91	0.99	0.92	0.43	1.21	0.76	0.91	1.30	1.75	1.00	1.28	1.69	1.01	1.58	1.34	0,85	0.96	2.22	1.72	1.33

Table—IV : presents birth weight of the infants which ranges from 1.4 kg. with a mean of 2.97 and with standard deviation of 0.58.

Table—V : presents distribution of mothers according to the age of conception and table VI presents the mean weight of the baby at the time of admission at the project.

DISCUSSION :

This study was conducted on the infant population admitted for regular follow-up at the Children Health Centre in Dhaka city. These children belonged to the middle and upper class population of Dhaka city. Acutely ill children are not admitted in this programme. This population of Children is expected to be representative of the normal population of children in this country.

The analysis of the data reveals a number of interesting pieces of information. The mother's literacy rate is 100%. Those having primary education only is 1.95% and those with post graduate education 31.25% (table—III). This population of mothers were aged between 17-32 years (table—V). The majority of mothers (76.28%) belonged in the age range 20-28 years. This population presented one child families 56.46%, two child families 28.4% and three child families 10.03%, 94.89% of families had not more than 3 children and 84.86% had not more than two.

The average weight of the infant population presented in the Table VI is compared with the Harvard standard and shows that those belonging to an educated and solvent community having all the previleges of the modern society are usually persistently below the standard Harvard weight and the gap increases with the increase of age indicating nutritional anomaly during this period.

The entire population of infants was subjected to routine PCV examination (The PCV value was multipiled by 0.34 to give haemoglobin in gm%, and multiplying this by 6.8 gives the percentage ratio, when 14.8 gm. taken as 100%).

According to the PCV estimation it seems that anaemia is present during the early few months and is highest in the first months and reduces gradually The pre and perinatal care may be the responsible factor. Usually the urban educated mothers do not follow the normal rules of healthful living and as a result their health condition is turned at a lower level. The cord is cut promptly after delivery and the baby is separated from the mother. The baby is usually on cow milk (or tin milk) where the normal lactoferrin is not available. The baby cannot absorb the iron from the food for at least the first four months of life.

The findings in this study shows that a percentage of infants show haemoglobin lower than the lower margin of normal haemoglobin level. The proportion of anaemia infants seems to reduce with increase in age ; corresponding with normal development of the digestive system which absorbs iron from naturally available food. Normally the haemoglobin level of the offspring is highest in its first month. The iron stores developed by the

neonatal destruction of R.B.C. in the offspring, provide the iron for subsequent haemopoiesis. The persistent anaemia during first few months indicates some abnormal act during labour which deprives the offspring from the normal blood production. Probably the cord was separated prematurely preventing the usual return of blood from placental circulation.

In some of the subsequent age groups the lower H b levels are probably due to extensive use of artificial feeding, force feeding of monotonous food, intestinal worms, diarrhoeal infection, repeated tonsillar and respiratory infections, extensive use of antibiotics etc.

We compared some of the samples by using Sahli's haemoglobinometer with the calorimeter or Cyanmeth-haemoglobin method and we found the findings obtained by PCV correlate well with the findings of the cyanmyth haemoglobin method and also some "units" of the Sahli's haemoglobin-meter manufactured by American opticals but the same instruments manufactured by West Germany usually gives a much lower reading.

This make of instrument (West German) is commonly used in Bangladesh to estimate haemoglobin and it may give impression of an abnormally high incidence of anaemia in the population.

On the basis of the work done by us and IPHN we strongly recommended that, before stating or reporting anaemia, the instruments used for the study must be standardised with the standardised cyanmeth Hb method. The inflated figures of the prevalence of anaemia being 70-80% may be obtained with the blotting paper method and also with Sahli's Hb meter when the instrument is not standardised. Hence the Sahli's Hb meter should be discarded or regularly checked and corrected to the standard to report the haemoglobin level of an individual.

AGENDA

Fifth National Seminar On Integrated Family Planning, Nutrition and Parasite Control.

Place : HOTEL SONARGAON, Dhaka.

DECEMBER 22ND, (SUNDAY) 1985.

9.15 A.M : Guest will kindly take their seats.

INAUGURATION SESSION

9.30 A.M. to 10.30 A.M.	Telwat-E-Quran	
	Address of Welcome	Col. Abdul Latif Mallik, Director General, Population Control Directorate and Member Steering Committee for integrated Family Planning, Nutrition and Parasite Control Project.
		Lt. Col. Dr. Shahabuddin Ahmad (retd.)
	Messages	Project Director, Integrated Family Planning, Nutrition and Parasite Control Project.
	Congratulatory Address	His excellency, Mr. Yoshitomo Tanaka Ambassador of Japan.
	Key Note Address	Mr. Alamgir M.A. Kabir Member Steering Committee for Integrated Family Planning, Nutrition and Parasite Control Project. and President FPAB.

	Address by Chief Guest	Mr. Manzoor-ul-Karim Addln. Secretary in Charge Ministry of Health and Population Control and Chairman Steering Committee for Integrated Family Planning, Nutrition, and Parasite Control Project.
	Address by Chairman Inauguration Session	Mr. Aminul Islam, Addln. Secretary, Population Control Wing.
	Vote of thanks	Dr. Mujibul Huq, Member, Steering Committee for Integrated Family Planning, Nutrition and Parasite Control Project.
10.30 A.M. to 11.30 A.M.	**Inaugural Tea**	

FIRST PLENARY SESSION :

11.00 A.M. to 12.00 P.M. Chairman, Maj. Gen. M.R. Choudhury,

1. Integrated Parasite Control Project in Bangladesh.
   By
   Lt. Col.
   Dr. Shahabuddin Ahmed (Retd.)

2. Parasitic infestations in the dead.
   By
   Dr.A.K.M. Aftabuddin.

3. Study of seasonal variation and degree of infection and its impact on nutritional status of semi urban population of Datttapara, Dhaka.
   By
   Dr.A.H.M. Abdur Rahman and
   Dr. Md. Qumrul Jalil.

4. Prospect of Integrated Family Planning Nutrition and Parasite Control Project in Bangladesh.
   By
   Md. Abul Hashim.

5. Communitys perception of voluntary Sterilization as a permanent method of Family Planning in Bangladesh.
By
Col. M. Hasmat Ali. (Retd)

SECOND PLENARY SESSION :

12.00 P.M. to 13.00 P.M. Chairman : Prof. Golam Mouzzem.

1. Community participation in primary Health care "An ,experiment in Comilla.,
By
Md. Abdul Quddus.
2. A hope for child survival : Growth monitoring of children in Bangladesh.
By
Dr. M.Q.K. Talukdar.
3. Improvement of Nutrition in Rural Bangladesh.
By
Md. Abdul Mannan.
4. Malnutrition and Childhood Blindness.
By
Prof. M.H. Rahman.
5. Prevalence of Anaemia in infant of a Privileged Community 1984—85.
By
Muttalib M.A. Wahed and (Mrs.) Collin C.E.

1. P.M. to 2. P.M. LUNCH BREAK

THIRD PLENARY SESSION :

14.00 P.M. to 16.00 P.M. GROUP DISCUSSION

Theme : Involvement of community in Integrated Health Project.

CLOSING SESSION :

16.00 P.M. to 17.00 P.M. Chairman : Col. Abdul Latif Mallik.
Director General Population Control Directorate.

LIST OF PARTICIPANTS

LIST OF PARTICIPANTS

NAMES AND DESIGNATION :

1. Mr. Manzoor-ul-Karim,
   Additional Secretary in Charge, Ministry of Health and Population Control and Chairman, Steering Committee Integrated Project, Bangladesh Secretariate, Dhaka.

2. Maj. Gen. M.R. Choudhury,
   Commandant, Armed Forces Institute of Pathology, Dhaka Cantt. Dhaka.

3. Col. Abdul Latif Mallik,
   Director General, Population Control Directorate, Azimpur, Dhaka.

4. Dr. Monawara Bint A. Rahman.
   Addl Director General of Health Services, 105/106, Motijheel C/A, Dhaka.

5. Mr. Mustafa Jamal,
   Deputy Secretary (Co-ord) Population Control Wing, Bangladesh Secretariate, Dhaka.

6. Dr. A.H.M. Abdur Rahman.
   Director Institute of Public Health and Nutrition, Mohakhali, Dhaka.

7. Prof. Kamaluddin Ahmed,
   Director, Institute of Nutrition and Food Science University of Dhaka, Dhaka.

8. Dr. M.A. Muttalib,
   Chairman, CHRA, 90, Bijoynagar, Dhaka.

9. Dr. Mujibul Haq.
   Representative, Bangladesh Private Medical Practioners Association, House No. 32. Road No. 10/B, Block No. H. Banani, Dhaka-12.

10. Lt. Col. Dr. Shahabuddin Ahmed (Retd.)
Project Director, Integrated Project. House No. 28 New, Road No. 3, Dhanmondi R/A. Dhaka-5.

11. Prof. Dr. M. Habibur Rahman.
Ex. Prof. of Nutrition and Biochemistry, NIPSOM, Mohakhali, Dhaka-12.

12. Dr. A.K.M Aftabuddin,
Prof. of Pathology, Shere-E-Bangla Medical College, Barisal.

13. Dr. M.A. Hai,
Prof. and Head of the Dept. of Pathology, Chittagong Medical College, Chittagong.

14. Dr. A. Hakim,
Prof. of Pathology, Sylhet Medical College, Sylhet.

15. Dr. Mohd, Shamsul Huda,
Prof. of Pathology, Dhaka Medical College, Dhaka.

16. Dr. M. Abdul Haque,
Prof. of Pathology, Mymensingh Medical College, Mymensingh.

17. Dr. Md. Nuruzzaman,
Prof. of Pathology, Rangpur Medical College, Rangpur.

18. Dr. A.K.M. Nazrul Islam,
Associate Prof. of Community Medicine, Rangpur Medical College, Rangpur.

19. Dr. Syed Sharafat Ali,
Associate Prof. and Head of the Dept. of Community Medicine, Chittagong, Medical College, Chittagong.

20. Dr. Md. Abdul Khalique Barbhuiya,
Associate Prof. and Head of the Dept. of Community Medicine, Sylhet Medical College Sylhet.

21. Dr. Md. Soleman Hossain,
Prof. of Community Medicine, Sher-E-Bangla Medical College, Barisal.

22. Dr. S.A. Abdul Bari,
Prof. of Community Medicine Rajshahi Medical College, Rajshahi.

23. Dr. M.Q.K. Talukder,
Prof. of Child Health, IPGM and R. Shahabag Avenue, Dhaka.

24. Dr. A.I.M. Islam,
Division Chief IPHN, Mohakhali, Dhaka-12.

25. Dr. Shafiqur Rahman,
Director, (BMRC), Bangladesh Medical Reasearch Council, 2nd Floor of IPHN Bldg. Mohakhali, Dhaka-12.

26. Dr. A.H.M. Nurul Alam,
Director, MCH Services, PC Directorate, Azimpur, Dhaka.

27. Dr. Khudeza Begum,
Administrator, Family Planning Model Clinic, Dhaka Medical College Hospital, Dhaka.

28. Lt. Col. Shams-ul-Dowla,
Director, Supply and Logistic, Population Control Directorate, Azimpur, Dhaka.

29. Dr. Md. Muslim Uddin Khan,
Project Directorate, Oral Rehydration Programme Bangladesh, Dept. Health Services. 46, Air Port Road, Dhaka.

30. Dr. M.G. Muazzam,
Director, Ibna Sina Laboratories, 121, Bara Moghbazar, Dhaka.

31. Prof. A.I.M. Mofakharul Islam,
Prof. of Community Medical and Principal, Mymensingh Medical College, Mymensingh.

32. Dr. Sabera Rahman,
Director, Mohammadpur Fertility Service and Training Centre, Mohammadpur, Dhaka.

33. Dr. Rafiqul Islam,
Medical Co-ordinator BRAC, 66, Mohakhali C/A, Dhaka.

34. Dr. Sirajul Islam,
Asstt. Prof. Paediatrics, Bangladesh Institute of Child Health Dhaka Shisu Hospital, Sher-E-Bangla Nagar, Dhaka.

36. Dr. Md. Qumrul Jalil,
Junior Clinician, Institute of Public Health and Nutrition, Mohakhali, Dhaka-12.

36. Col. M. Hashmat Ali (Retd.)
Local consultant, Sterilization Surveilance Team, 34/35, Green Super Market (3rd floor), 14, Green Road, Dhaka-15.

37. Dr. Golam Mostafa,
Programme Officer, UNICEF, Dhaka.

38. Brig. M. Hedyat Ullah,
Director General, Health Services, 105/106, Motijheel C/A, Dhaka.

39. Dr. Sultana Wahed Choudhury
Community Health Research Association, 90, Bijoy Nagar, Dhaka.

40. M.A. Mannan.
Dy. Director Rural Dev. Academy, Bogra.

41. Mr. Aminul Islam,
Addl. Secretary Population Control, Wing, Bangladesh Secretariate, Dhaka.

42. Mr. Nawab Ali,
Director Research, NIPORT, Azimpur, Dhaka.

43. Mr. A.S. Azad
Programme Officer (UNICEF) W. and E.S. House No. 73, Road No. 5-A, Dhanmondi R/A, Dhaka.

44. Syed Waliullah,
D.G. NIPORT, Azimpur, Dhaka.

45. Mr. Abdul Mannan,
Secretary, in Charge National Nutrition Council Bangladesh, I.P.H. Bldg. Mohakhali, Dhaka-12.

46. Mr. Abdur Rouf,
Chief Executive, FPSTC, 103, New Circular Road, Dhaka.

47. Md. Abdul Quddus,
Deputy Director (Training) B.A.R.D. Kotbari, Comilla.

48. Md. Akhtaruzzaman Khan,
Director Administration, Population Control Directorate, Azimpur, Dhaka.

49. Mrs. Mufaweja Khan,
Executive Director, Concerned Women Family Planning Project, 108, Kakrail, Dhaka-2.

50. Mr. A.K.M. Rafiquzzaman,
Director, NIPORT (Training), Road No. 3, Dhanmondi R/A, Dhaka.

51. Mr. Abdur Raquib Khan,
Hon G.S. FPAB, Khulna Shama Building, 17, Sher-E-Bangla Road, Khulna.

52. Mr. Md. Enayet Ali,
Hon. President FPAB, Khulna Shama Building, 17, Sher-E-Bangla Road, Khulna.

53. Md. Abdul Hashim,
Deputy Director, Family Planning and Population Control, Ambar Khana Lane, Sylhet.

54. Md. Nurul Haq.
Deputy Director, Family Planning, and Population Control, Narsinghdi.

55. Mr. Abul Hassan,
Research Officer, IFPNPCP, Dhaka.

56. Mr. Shajahan Miah,
Statistician, IFPNPCP, Dhaka.

57. Mr. A.K.M. Zahurul Islam,
Accountant, IFPNPCP, Dhaka.

58. Mr. Tahazzat Hossain
Project Officer, Integrated Project, K.D.A. R/A, Boyra, Khulna.

59. Md. Abul Hossain Miah,
Project Officer, Integrated Project, Upazilla Family Planning Officer, Panchdona, Norsinghdi.

60. Mr. Feroze Hossain,
Upazilla Family Planning Officer, Shadullapur, Gaibandha.

61. Mr. Babul Chakraborty,
Senior Scale Section Officer, Population Control Wing, Ministry of Health and Population Control, Bangladesh Secretariate, Dhaka.

62. Mr. S.U.M. Zahirul Islam.
Deputy Secretary Development, Population Control Wing, Bangladesh Secretariate. Dhaka.

63. Mrs. Suraiya Ahmad.
Project Co-ordinator, M.R. Training and Services Programme, 76, Satmasjid Road, Dhanmondi R/A, Dhaka.

64. Mr. Azizul Karim,
Deputy Chief, Ministry of Health and Population Control Wing, Planning Cell, Bangladesh Secretariate, Dhaka.

65. Prof. Abidur Reza.
Head Dept. of Animal Nutrition, Bangladesh Agriculture Unversity, Mymensingh.

66. Md. Habibur Rahman.
Executive Engineer, P.H.E. 12, Motijheel, Moon Mansion, Dhaka.

67. Rownak Maula.
Acting Research Co-ordinator, Bangladesh Fertility Research Programme, Asad Avenue, Dhaka.

68. Md. Taher Jamil,
Upazilla Family Planning Officer, Madhabpur.