CHAPTER VI

MAJOR FINDINGS, CONCLUSIONS AND THE EMERGENT MODULE

Selecting a research topic can be an intensely personal and passionate choice expecially when one works in an applied area with concrete implications for people's lives - Susskind E. and Klein D. (1985 :10). The same two authors further state that for many individuals this choice may involve an attempt to use the discipline of science to examine, modify, validate or promulgate their values and to see whether this scientific process clarifies or enhances what they know 'on a gut level' moving that knowledge from the status of belief in the direction of becoming a fact. These statements beautifully sum up the motivational drive that led the researcher opt for an experimental study; the choice of ultimate goals (pursued); and the broad course of action followed. How far did we traverse the right path and what lessons were learnt on the way are the two relevant questions that must be answered at the end. In this last chapter, therefore, we begin with a summary of the major findings; followed by some logical conclusions; and finally present our experience based know-how of the module of social intervention adopted.

6.1 Statistical Findings :

It may be recalled here that for sake of organised presentation, the entire volume of relevant data used has been presented under three different categories viz. The Base-Line Survey, Health and Growth-monitoring Interventions and Health Education Intervention in chapters III, IV and V respectively. The same pattern would be followed to summarise presentation of major statistical findings.

6.1.1 The Base-Line Survey Findings :

The base-line survey of 115 families from Harijanwas and Sardargram pockets of Pensionpura slums in Vadodara, where the field experiment was conducted, addressed itself to the task of determining the demographic and socioeconomic conditions of the respondent families and also sought information pertaining to certain factors closely related to health of under-fives i.e. daily diet patterns; actual per day consumption of essential food items; incidence of pregnancy wastage and child mortality; utilization of ante-natal, natal, post-natal and family planning services; age at weaning and types of weaning foods given; and motor and mental developmental testing of children between 0 - 30 months of age. The results are as follows :

6.1.1.1 Religion : A vast majority of families were Hindus i.e. 92.17% followed by Christians - 5.21%, Muslims - 3.0% and there was 'nil' reporting for 'any other' category.

6.1.1.2 Caste : Harijans had the maximum numerical strength i.e. 44.34% and were followed closely by schedule castes/tribes other than Harijans - 41.73%. Upper castes - 6.08% and non-castes - 7.82% made up the total.

6.1.1.3 Mother-tongue : Gujarati led the distribution of families on the basis of mother-tongue - 73.91%; the rest being Marathi - 13.04%, Hindi - 5.21% and 'Any other' - 7.82%. 'Any other' category included Punjabi, Sindhi, Tamil and Nepali.

6.1.1.4 Native Place : Study revealed that 56.41% belonged to Baroda district, 15.82% families hailed from within Gujarat but districts other than Baroda, and 27.75% had migrated from states other than Gujarat.

6.1.1.5 Family Type : Under the study there were 63.06% nuclear families and the rest 36.92% were joint families.

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6.1.1.6 Family Size : Mean Family Size under the study was found to be 4.91 members with a standard deviation of 1.43 members. Besides, 15.65% families had 2 or 3 members ; 55.65% had 4 or 5 members; 23.4% had 6 or 7 members and 5.21% families had 8 or 9 members.

6.1.1.7 Food Consumption Units Per Household : The mean food consumption units per household was found to be 4.03 with a standard deviation of 1.18. Distribution of households based on this criteria was as follows : 26.08% had 2.0 - 3.0 units; 28.69% had 3.1 - 4.0 units; 27.82% had 4.1 - 5.0 units; 12.17% had 5.1 - 6.0 units; and the remaining 5.21% had 6.1 to 7.0 units.

6.1.1.8 Educational Levels Amongst Men : The literacy rate amongst men was found to be 70.75% while the remaining i.e. 29.25% were illiterates or had had zero education. The second category comprising of men who had one to five years of formal education consisted of 31.29%. Those with formal education of six to nine years were placed in the third category i.e. 27.89% men belonged here. 11.56% men were placed in the fourth category representing men with formal education of ten to twelve years. There was 'nil' reporting for college or university education.

6.1.1.9 Educational Levels Amongst Women : The literacy rate of women under study was found to be 31.86% which implies that the remaining 68.14% had had zero formal education or were illiterate. Of the remaining 17.03% had received formal education between one to five years; 8.14% had education between six to nine years; 5.92% had education between ten to 12 years; and 0.74% (1 woman) had received two years of college education.

6.1.1.10 Combined Literacy Rate of Men and Women : was found to be 51.8%.

6.1.1.11 Occupational Patterns of Men : Of the families under study, 7.82% were unemployed; 16.52% were self-employed; 46.08% were non-govt.employees and 29.56% were govt.employees.

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6.1.1.12 Occupational Patterns of Women : Of the women under study, 63.47% were housewives; 6.08% were self-employed; and 30.43% were classified as 'employed earning'.

6.1.1.13 Monthly Per Capita Income : Was found to be Rs. 148.35 with a standard deviation of Rs. 77.6.

6.1.1.14 Economic Levels of Families : The study revealed that there were 27.82% families below 'poverty Line' i.e. with PCI of Rs. 100 or less per month; 19.13% had incomes between Rs. 151 - 200 per month; 9.56% having incomes between Rs.201 - 300; and the remaining 5.21% had incomes of more than Rs.301 per month.

6.1.1.15 Daily Diet Patterns : There was a long and unhealthy gap of 8 to 10 hours between two major meals in case of all families. Breakfast was dispensed with by 56.53% families and only 43.47% families had it in form of left over roti, bread or biscuit with tea.

Lunch and dinner were taken universally, even if 9.4% families had to beg for it. Lunch usually consisted of 'roti' with a curried vegetable and dinner comprised of either 'Khichari' or rice and dal at times accompanied by a vegetable. Of the vegetables most commonly reported under 48 hours recall were potatoes, brinjals, cauliflower, tuwar (legume), tomatoes etc. Greens or leafy vegetables though cheap during that season were conspicuous by their absence and same was true of milk products like curds and 'chaas'. None reported salads and fruit.

Evening tea could be afforded by only 22.6% and the rest 77.30% did without it. None reported light snacks with tea.

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6.1.1.16 Mean Intake of Essential Food Items Per Day : Both Per capita intake and per consumption unit intake in the study families were compared against the standard ICMR recommentations of corresponding food items as shown in table 3.7B. Milk, Rice, Atta (wheat flour in most cases; occasionally bajra). Pulses, Vegetables, Oils/Fats were the daily essentials considered. It was found that daily intake of milk and vegetables (under both categories viz. per capita intake and per consumption unit intake) were grossly deficient by the ICMR standards. In case of milk, as against 175 gm. per day per adult, the corresponding means under the two categories were only 52.36gm. and 63.66gm. respectively. For vegetables as against 180 gm. per day recommended by ICMR, mean per capita intake was 102.71 gm. while the mean per consumption unit intake was slightly higher at 130.64 gm. Under 'cereals' both rice and atta have been considered together by the ICMR and the recommended daily intake is 500gm. against which the mean per capita intake in our study was 436.0 gm. while the mean per consumption unit intake was 504 gm. or slightly higher than the recommended standard. Similarly in case of pulses, sugar, oil/fats it was found that when mean per consumption unit daily intake was considered against the corresponding standards the situation of study families was quite satisfactory as they were receiving the necessary nutrients in right quantity. Only in case of milk and vegetable consumption there was an alarming nutritional gap.

6.1.1.17 Incidence of Pregnancy Wastage and Mortality of Underfives:

Less than half i.e. 43.47% families exhibited a healthy trend with 'nil' incidence of pregnancy wastage or underfives' mortality. By implication every second family had experienced loss of one kind or the other. More specifically, 14.78% reported pregnancy wastage; 39.13% reported underfives' mortality; and 2.60% families reported mishaps of both types.

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Regarding age at death, it was found that of the total occurence of 66 underfives' deaths, a majority i.e. 69.69% succumbed below one year while the rest 30.30% died between one to five years of age. More male children i.e. 57.57% as compared to 42.42% female children lost their lives. As for causes of death, though precise data was not available in all cases, the commonest reasons given were diarrhoea, fever and mother's illness etc.

6.1.1.18 Utilization of Ante-natal, Natal, Post-natal and Family Planning Services :

In the study families it was found that only 4.34% women had availed of regular ante-natal check up as against 93.91% who had not; while 1.73% were sterility or 'not applicable' cases. Here, regular periodicity was defined as at least two check-ups in each tri-mester. Most women in the present study sought medical advice only in the last three months of pregnancy or the advanced stage. This perhaps explains why utilization of Iron supplements, vitamins and Tetanus Toxoid were somewhat better. While 64.34% had taken vitamins and Iron supplements, 33.91% responded in negative and 1.73% were 'n.a.' cases. Regarding Tetanus Toxoid 51.30% responded in affirmative; 46.95% in negative, 1.73% being 'n.a.' cases.

To ascertain utilization of natal services, the women were asked to furnish data pertaining to last three or less (in case of lesser children) children born to them. Of the total such 318 births, 43.39% were home deliveries i.e. without trained attendance and other natal services and 56.60% were hospital deliveries where professional help was available.

Regarding the customary six-week post-natal examination of mother and child, only 7.82% responded in affirmative and that too because the child had developed some serious health problem. It is surprising that despite more than half the births having occured at hospitals, 90.43%

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women did not go back for post-natal check up. On the positive side, 58.26% women had followed the medical advice of giving colostrum to the newborn child. Of the remaining 40.0% discarded it while 1.73% were 'n.a.' cases.

Professional advice for spacing births or sterilisation was utilized by 56.52% women while 41.74% utilized neither, the rest 1.73% being 'n.a.' cases. Further query into (permanent only) measures of contraception revealed that a large number i.e. 41.73% couples had not undergone either spouse sterilisation. Tubectomy was greatly favoured over vasectomy; the statistics being 35.65% and 20.0% respectively.

6.1.1.19 Age at Weaning and Weaning Foods : The study revealed grossly incorrect weaning practices amongst respondent families. Only 10.43% could be credited for initiating weaning at the correct age of 4 to 6 months. 26.08% can be termed as 'moderately late starters' having begun it when the child was 7 to 9 months old 45.21% formed the modal class where the child was 10 to 14 months old when weaning began. Amongst the 'severely late starters' 8.69% began weaning when the child was 15 to 19 months old ; and another 9.56% delayed weaning till the child was 20 to 24 months old.

Mean weaning age was quite high at 11.3 months with a standard deviation of 2.3 months.

The most popular weaning foods were 'rice and dal' or 'khichadi'. Many families also give 'roti with dal' or whatever is cooked for that meal. Especially suitable weaning food for infants was reported to be 'glucose biscuits' (?). Few women prepared 'dal soup', 'rice water soup' or fruit juice for infants. Top milk i.e. supplementary skimmed buffalo milk or cow's milk was given by a small minority.

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6.1.1.20 Motor and Mental Developmental Testing of Children between 0 - 30 months :

Measurements on Bailey's scale (modified by Phatak P. for Indian children) revealed that there was not a single case of latent disability in the slum families under study.

6.1.2 Findings Based on Health and Growth-monitoring Interventions for Underfives :

Findings under this sub-head comprise of three types. The first category highlights the health status of study children before intervention.

In the second category we include statistical assessment of the seven hypotheses postulated in this regard. And the third category presents findings obtained by multiple regression analysis of three major dependent variables viz. Weight/Height^2 x 100, Haemoglobin status and Nutritional status against relevant predictors viz. household size, mother's education, per capita monthly income and mother's age.

6.1.2.1 The base-line health status of the underfive study children was very poor. More specifically, mean wt./Ht.^{2} x 100 ratio in treatment and control groups were .1295 and .1301 respectively as against the standard value of 0.15 for low socioeconomic status children; mean haemoglobin levels measured 8.8600 and 8.7160 in treatment and control groups respectively as against the WHO standard of 11.0 gm/dl. for underfive poor children; and lastly a majority of children in both groups belonged to the category of second degree of malnutrition which is defined as the reduction in body weight upto 71 - 60% of the median weight.

6.1.2.2 Under the impact of the field-experiment, there was an all-round improvement in the treatment group children as shown by the three criteria indicators. More speci-

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fically, Wt./Ht.^{2} x 100 ratio and haemoglobin level rose to .1441 and 9.4433 respectively while the mean nutritional status moved from second to first degree of malnutrition i.e. after intervention it lay between 80 - 71% of median weight.

6.1.2.1 t- test analysis of means in the case of seven hypotheses postulated in this regard confirmed that the first six hypotheses could be retained at high levels of statistical significance i.e. at $p < .001$ or $p < .05$. The implication here being that the treatment group children recorded significant increase, in their post-intervetion measures of weight-for-height, haemoglobin and nutritional status vis-a-vis the respective pre-intervention values. Simultaneously, the 'after only' t-test of treatment and control groups also proved that the treatment group was significantly superior at the end of social intervention. In other words, the health and growth-monitoring interventions under the experiment were impactful in the present context.

6.1.2.2 Hypothesis 7 stating that the incidence of reported morbidity in case of treatment group would be lower than the control group was conclusively rejected on the basis of t-test result. Suitable explanations for this unexpected result have been discussed at length in chapter four, section 4.5.7.1

6.1.2.3 Multiple regression analysis of predictor variables like household size, mother's age, mother's education and per capita monthly income against criteria variables of weight for height, haemoglobin and nutritional status revealed that "mother's education" was the single most powerful independent variable which was positively and significantly correlated to all the three dependent variables. R-Square values or the variance produced in each case was high too. Of the remaining variables, household size and mother's age bore a negative correla-

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tion but the relationship in none of the three cases was statistically significant. The implication however was that smaller households and younger mothers contributed positively towards health of underfives. Per capita monthly income though positively correlated made no statistically significant impact.

6.1.3 Findings Based on Health Education Intervention for Mothers.

Findings under this sub-head comprise of two types. The first category includes statistical assessment of the six hypotheses postulated in this regard. In the second category we present findings obtained by multiple regression analysis of aggregate scores of Knowledge, Attitudes and Practices of Health Care of Underfives amongst Mothers as the three major dependent variables against the most relevant predictors, namely, household size, mother's education, per capita monthly income and mother's age.

6.1.3.1 Statistical analysis using t-test in the case of six hypotheses postulated in this context revealed that the former four hypotheses pertaining to change in knowledge and attitudes could be retained at high levels of significance of p-values $< .001$ or $< .05$. The implication here being that the treatment group mothers recorded significant increase in their post intervention aggregate scores of knowledge and attitudes vis-a-vis the respective pre-intervention scores. The 'after-only' comparison of knowledge, however, did reveal a slight 'trickle around' spread of knowledge, from the former to the latter group. In the open community setting of the field experiment such sharing of knowledge could not be prevented. But since knowledge gain by control group mothers had increased marginally, it seemed judicious to retain the hypotheses. The two hypotheses on increase in aggregate attitudes score could be retained un-ambiguously.

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6.1.3.2 The last two hypotheses on increase in aggregate practice score could be accepted partially at $p < .001$ or $p < .05$ levels of significance. Both hypotheses 12 and 13 contained three sub hypotheses each in the areas of 'care and management of the sick child'; 'infant feeding' and 'personal hygiene'. t-test analysis of hypothesis 12 revealed that it was tenable with respect to 'care and management of the sick child' and 'personal hygiene' but un-tenable in the area of 'intant-feeding' practices. However, in the case of hypothesis 13, it was found to be acceptable only in the area of 'care and management of the sick child'while with respect to practices of 'infant feeding' and 'personal hygiene' it had to be clearly rejected.

6.1.3.3 Multiple regression analysis between predictor variables like household size, mother's age, mother's education and per capita monthly income and criteria variables of aggregate scores of knowledge, attitude and practice revealed that as far as aggregate score of knowledge gain was concerned only mother's education was positively and significantly correlated. In the case of aggregate score of attitudes none of the predictor variables had any statistically significant influence whether positive or negative. However, in the case of aggregate score of practice while mother's education was a positive and statistically significant correlate, household size proved to be a negative correlate which was also statistically significant. Contrary to popular belief per capita monthly income was not significantly correlated to any of the three dependent variables. Similarly, mother's age was negatively correlated to all but the relationships were not significant.

6.2 Conclusions

In the light of the summary of major findings, certain conclusions that can be drawn are stated below :

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6.2.1 The present intervention module which lay heavy emphasis on multi-disciplinary team approach to improvement of health of underfive slum children was efficient in fulfilling its objectives since the three criteria indicators viz. weight for height measure, haemoglobin status and nutritional status of the treatment group were shown to have increased significantly at the post-intervention stage.

6.2.2 The model has demonstrated how social work profession can assume central responsibility in promoting effective utilisation of resources by the urban poor. On one hand, professional knowledge and skills of a hospital based health care system were provided with the necessary support to out-reach open slums and on the other, the people were made aware of and encouraged to draw benefits from the former. Clearly, this is of much relevance in the context of a developing nation like India, where the resources are scant and the needs are ever increasing.

6.2.3 The module was successful in significantly improving the aggregate scores of knowledge and attitudes regarding health care of underfives amongst the target women i.e. there indeed lay positive evidence of cognitive and affective learning by them. However, the module was only partially successful in making a significant impact in the practice area.

In order to explain this un-expected outcome we quote Alleyne G.A.O.et.al. (1976) who state that behaviour may be inhibited even when knowledge and attitudes are changed because of constraints of conforming with the community, husband rejection, lack of resources, political or religious loyalties in any given cultural context are generation old and the women themselves must feel secure in following time honoured traditions rather than take risks with the new.

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At the same time, there is no cause to feel over despondent. According to theories of learning, cognitive and affective type of learning invariably pre-dispose individuals towards behavioural changes or improved psycho-motor functioning. It can be, therefore, suggested here that further interventions with heavier emphasis on improvement of practice would certainly yield the desired results.

6.2.4 Multiple regression analysis finding that mother's education was the single most significant and positive correlate of all the three chosen indicators of child health and aggregate scores of knowledge and practice of health care amongst mothers strongly recommends the need of informal health education interventions of the type incorporated in the present study.

6.2.5 There were several inadvertent or side-gains of the field experiment. The two, most important ones are mentioned here.

The growth-monitoring interventions and the health education programme in combination raised health-consciouness amongst treatment group mothers. This was reflected in higher reporting of underfives' morbidity by treatment group mothers vis-a-vis the control group at the post intervention stage whereby hypothesis seven had to be rejected. In other words, the treatment group mothers had imbibed the importance of early response to faltering health of their underfive children and report about it.

Secondly, women participants of the health education programme underwent a dramatic change in their total personality. From the stereotype of illiterate, under-privileged and taci-turn women they emerged as bolder, relatively well aware and intellectually curious individuals in their own right. Most of our guest speakers were highly impressed by their keen interest in the programme and the quality of questions raised by them.

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6.2.6 Finally, in view of the substantial success achieved by the present intervention model in fulfilling most of its stated objectives, its cost-effectiveness and the professional responsibility discharged in the process, it is strongly recommended that such interventions should be replicated under similar conditions. In the next section, we present some 'tested do's' to facilitate future efforts by social work professionals and other practitioners.

6.3 The Emergent Module

The under-lying purpose seved by any intervention module is that it facilitates its replication elsewhere under comparable conditions. The emphasis should, however, be on furnishing a set of proven guidelines or experiential lessons and not on supplying ready-to-use programme formats. In fact, it would only be prudent that the future practitioners evolve their own work-plan taking into cognizance, the uniqueness of probable clients, availability of infrastructural devices and the prevailing socio-political environment.

6.3.1 The Present Field Experiment

As far as the present field experiment is concerned vivid details have already been presented in chapters one, four and five under various sections viz. Research Design; Flow Diagram of the Interventional process; Procedures of Base-line Survey ; Procedures in Application of Input A ; Table 1.1 showing Schedule of Component Tasks under Input A ; Procedures in Application of Input B ; Modus-operandi of Growth-monitoring and all of section 5.1. What perhaps can be added at this juncture are a few 'useful tips' which emerged directly from our field experience.

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6.3.2 Preparatory Work

-----'Involving the people from the very begining' is of crucial consequence. While it is true that such projects usually happen at the initiative of community welfare agencies and also that 'health of underfives' is hardly ever a 'felt need' of the community yet the people can be involved in various ways. Door-to-door contacts; seeking leaders' opinion ; small group discussions with men and women to explain in simple terms the objectives, expected outcomes, process, approximate intervention period, areas in which community support is needed and clarification of their doubts or apprehensions etc. must precede everything else. Further, no commitment should be made until there is a green signal from the community.

-----It indeed takes much sensitivity, footwork and determined effort to elicit peoples' participation but its a worthy investment all the same. People have some very useful ideas to contribute and they may even volunteer to undertake various responsibilities when we stimulate them appropriately.

-----Communities often tend to be over-surveyed and sometimes over-intervened these days. It is only proper, therefore, that the interventionists compensate the people for the time and energy which the latter eventually spend on the project. A system of short-term and tangible rewards should be worked out in advance. In the present case, on different occasions biscuits, toffees, handkerchiefs, some plastic items, dates and a Certificate in Child Health Education were instituted as token incentives for the participant children and their mothers.

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-----Having won confidence of the people, prepare a tentative outline of the interventive plan in consultation with experts. In a multi-disciplinary situation, it is of fundamental importance that the programme format be thoroughly discussed with other professionals in the team and modified subsequently. Such discussions not only lead to technical refinement of the plan but they also go a long way in developing a healthy team spirit amongst the members and help enrich the resource bank for the project.

-----Construct, pretest and finalise the research tools and measurement scales etc.

-----Train investigators to upgrade their interviewing skills through field demonstrations and follow up discussions.

-----Organise training of investigators in administration of Bailey's Developmental Testing Tool. In the present case they were sent to Infant Testing Centre, Faculty of Home Science, M.S. University of Baroda.

-----Locate community resources to finance the cost of medicines and honourarium of the CHV. (This may not be always necessary depending on the financial resources at hand).

-----The agency may have adequate manpower but engaging a volunteer from amongst the people themselves helps increase their faith in the project. Besides, it is a practical arrangement wherein the interventionist is in a position to maintain a live, two-way contact with the community.

-----Prepare well in advance, forms for medical examination; register for recommended treatment and referrals; moribidity record register ; height, weight and haemoglobin record register ; registration cards assigning identification numbers to each child ; and physical lay-out of furniture and other equipments required for various events.

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-----Procure in time medicine for deworming treatment (Mebendezol), vitamin pills, iron pills, paediatric syrups, road-to-health cards for growth-monitoring and audio-visuals aids for the health education programme.

Intervention Phase

-----Day and time for health education sessions, and other planned activities should be decided in consultation with the women. Otherwise, the interventionist would not know about the ration collection day, local social calender and festivals when women observe fast etc. Obviously, scheduling of project activities on such inconvenient days could evoke a negative response which in turn might prove detrimental later.

-----Further, organisation and co-ordination during each event must be very strong i.e. as far as possible, there should be no delays or postponements; equipment snags; communication gaps amongst professionals as well as between the people and the project team; and lack of role clarity at any level. Much effort is required to ensure all this but it helps build peoples' confidence.

-----The project team must critically evaluate each component activity at the end, amongst themselves. Such exercises are necessary to assess strengths and shortcomings of the work done and aid in improving the quality of future programmes.

-----Demonstration of high work-discipline, sincerity and efficient time management by the interventionists begets them respect as professionals and affection as individuals. Consequently their (peoples') enthusiasm and co-operation towards the project grows.

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-----So far it has been emphasized how vitally important it is to work as per a carefully planned schedule. At the sametime, interventionist must recognise certain exigencies from the peoples' view point and be accommodating about them, no matter how trivial or inconsequential the situation may seem to the former.

Post Intervention Phase

-----Formal and Informal vote of thanks must be extended to people, collaborating professionals and several others who contributed in numerous small ways.

-----Goodwill earned through the course of one project must be masterfully used to advantage for planning of future interventions with the people. Indeed, this to some extent would depend on the agency policy and programmes.

-----Follow-up action as indicated by the major findings and outcomes must be pursued in right earnest. For as Park J.E. and Park K (1985) have put it :

> Few people can learn all that is new in a single period. Repeatition at intervals is extremely useful. It assists comprehension and understanding. Every health campaign needs re-inforcement; we may call it a booster dose.