

INTRODUCTION AND REVIEW OF LITERATURE

Parents and professionals in the early decades of the twentieth century were most concerned with infant survival as infant mortality was high. For a long time the infants' world was considered to be a buzzing, booming confusion. Very little was known about their behavioural competencies. Over the last three decades, research devoted to various facets of infant's development has matured considerably, indicating that unlike earlier impressions even the very young infant is competent.

As behavioural and medical researchers began to focus on understanding infant's development, it was observed that babies see more, hear more and understand much more than was earlier believed. Today, in addition to the physiological competence of the newborn infant, we know a lot more about infants' behavioural competence. Research has demonstrated the enormous capacities of the newborn to seek out and process information that will ensure their survival and healthy development. (Kobayashi, 1993; Osofsky & Connors, 1979). Babies are able to protect themselves against unfavourable stimuli and sustain favourable ones very early in life. Even neonates can see an object at a short distance and can shut their eyes against bright light; right from birth they are able to identify their mother's smell, they cease crying when held in mother's arms and make sounds of pleasure on seeing a familiar face, to name a few of the many capacities they demonstrate and continue to learn each day.

The understanding of infant's competence made way for a changed perspective of the infant from a completely dependent, passive recipient to that of an active, complex organism who elicits information and modulates the environment. This changed perspective of infants opened up new dimensions in child care, making professionals and parents consider infants' developmental needs and provide conditions for early learning. A suitable environment for infants is as follows:

Early child care comprises of actions necessary to promote survival, growth and development of the infant. The basic needs of development go beyond protection, food and health care, to include the need for affection, security, interaction and stimulation provided with consistency and predictability and play allowing exploration and discovery. These needs appear together. A supportive environment will respond to all of a child's needs which will however be defined somewhat differently and be given different properties by different cultures (Myers, 1991, p. 22).

The developing countries have been more concerned about the nutritional and health status of young children than about their social and mental development. As infant mortality rates decreased in the past couple of decades, the focus of attention shifted from survival of the infants to ensuring that the infant who survives grows up in a suitable environment. However, the concern for a suitable environment is confined to the upper socio-economic class while in large pockets, infant survival remains a major concern.

Certain home conditions such as low per capita income, lack of literacy, employment of both parents outside the home without adequate substitute child care support predisposed the child to be at risk of inadequate stimulation and care. These potential psycho-social risk factors cluster most frequently in lower socio-economic status (SES) families (Sharma, 1989). Studies of socialization practices of mothers from low SES families have shown consistent evidence that they provide less stimulating and less supportive linguistic environment for the child than do middle-income mothers (Anandalakshmy, 1982; Streissgirth & Bee, 1982).

More recently, however, studies have identified the strengths of environments characterising the poor, such as, opportunities to play with peers with minimal adult interference enhancing self-reliance and empathy, exposure to multiple teaching styles, presence of a rich cultural tradition of games, songs and stories. But inspite of these strengths, it is clear that the developmental costs of poverty are high and that poverty is a marker for potential psycho-social risk factor (UNICEF, 1990). In order to break the cycle of poverty, investments in early intervention programmes have gained momentum in the developing and developed countries. Early intervention attempts to re-direct the anticipated trajectory of development in order to alter the negative effects on social, cognitive and behavioural outcomes. (Sigel, 1972; 1990).

In India at present, the ICDS (Integrated Child Development Services) Scheme is the largest national level early childhood programme for mothers and children (0-6 years) from the disadvantaged population. It now reaches approximately twelve million children under six years of age, providing them an integrated programme of health, nutrition and non-formal education. The major lacuna identified in the programme is that while it has succeeded in serving older children, it has not been able to reach children under three (Consultative Group on ECCD, 1993). Interviews with the training co-ordinators of ICDS (Sharma 1989; Swaminathan 1993) indicated that though the training for the field workers is aimed at intervention for infants and mothers, the content of the training programme lacks a developmental dimension, and emphasis is on nutrition and health.

A need was therefore felt to develop a training programme on infant stimulation to train the field workers of ICDS, who in turn would guide mothers regarding quality child care. This study further aims to test the effectiveness of the programme on mother-infant interactions and its influence on infants' development.

Review of Literature

The present chapter reviews social variables influencing infants' development with reference to the following aspects :

- * Effect of early stimulation on infant's development with emphasis on the role of family in shaping developmental outcomes.
- * Role of early intervention programmes in fostering infant care and development and issues related to implementing them.

Early Stimulation: Its Role In Infants' Development

"Infants face different opportunities and risks for development because of their mental and physical make-up and because of the social environment they live in" (Garbarino, 1993 p.4). Thriving in the first three years of life is a result of many social influences functioning in complex interactions. Some influences facilitate, while some hinder development. When these social influences in early life operate in psychological or sociological terms we refer to them as 'early stimulation' or, as Garbarino (1993) calls them, "sociocultural opportunities." (p.4).

The belief in the need for proper care and stimulation or 'lalan-palan' of the child during their earliest months and years is embedded in most cultures. The term 'early stimulation' generally refers to "provision of a quality environment for children below the age of three, an environment which gives freedom, opportunities to move and explore and incentives to arouse infants' interest and curiosity" (Sharma, 1989, p. 3).

Optimal stimulation is therefore one that is age-appropriate, non-restrictive, responsive and effective (Murlidharan, 1989).

Stimulation with infants occurs while they interact with the environment, which may either be animate or inanimate, i.e. with adults and siblings or with play things. Ribble (1965) regards three types of sensory experiences as essential for the proper development of the infant. These include tactile and kinesthetic stimulation of touch and movement of the child's whole body by caregiver. The second category is eye-to-eye contact with adult and visual stimulation. The third is auditory stimulation i.e. vocalising and talking directed by the caregiver towards the infant.

Earlier studies on infant care in institutions (Schaffer, 1977; Yarrow, Rubenstein, Pederson and Jankowski, 1972, 1975) have established the vital role played by early stimulation. Recent researches have confirmed that in the early years sensory stimulation from the environment affects the structure and organisation of the neural pathways in the brain (Dobbing, 1987). There is accumulating evidence that for the infant, either at home or in institutions, cognitive and social developments are related to the amount, (Gunzenhauser, 1987), type, (Yarrow, et al., 1972, 1975), appropriateness (Khanna, 1992) and timing (Bertenthal & Campos, 1987) of stimulation. Thus as the quality of infant care has serious implications for the developmental process "all children should have opportunities to become species-normal, culturally appropriate and unique" (Scarr, 1993, p. 1350).

The stimulation activities and opportunities that caregivers provide the infant will largely depend on their views of child's development and learning. Various theories have emerged to broaden our understanding of young children's developmental needs and the interacting effects of the early environment on development and these will be considered in the following section.

Theoretical Assumptions Underlying Early Stimulation

The developmental theories vary in their emphasis on effects of early experiences on later development. Broadly there are "three models of environmental action" (Bradley, Caldwell and Rock, 1988, p. 852). Model I, rooted in psychoanalytic, ethological and attachment theories, asserts the primacy of the early environment on children's development. Model II, articulated by Kagan (1984), claims the predominance of the contemporary environment, suggesting that the experiences children have later in life (nearer in time to when some developmental or behavioral outcome is measured) may play a larger role in later developmental status.

Model III includes Bloom's (1964) notion about the importance of constancy in environment and gives significant weight to the stability of environment across time. Wachs and Gruen (1982, cited in Bradley, et al., 1988, p. 853) suggests that different developmental outcomes may be better explained using different models of environmental action.

The psychosocial theories of development (such as Erikson) give significant value to home environment variables such as parental responsivity and acceptance. That is, children who have parents that are more responsive and nurturing in the early years tend to show a greater degree of overall adjustment because of a "basic trust" in the environment developed in infancy. Besides social interactions, theories propounded by Piaget, Vygotsky, Werner and others give significant weight to child's interactions with physical objects as a means of getting to understand and manage their surroundings during the early years.

Piaget's theory has been a prominent framework for early childhood philosophy and curriculum. It describes development as determining current cognitive competence and influencing what children are capable of learning (Piaget, 1952). Through active interaction, exploration and observation of the environment, children actively create their own learning. Play is seen as an important medium through which learning occurs.

The availability of responsive toys and objects also provide opportunities for exploratory and mastery motivation. Children devoid of experience with a variety of manipulable responsive objects in the first few years are less likely to develop interest in learning about their surroundings and may have less breadth of understanding about basic cause - effect relations which can be detrimental to later school learning (Bradley, et al., 1988; Yarrow, et al., 1975).

Piaget's theory provides a useful emphasis on the need for children to construct their own understanding of the world but, as Smith (1993) argues, it under-emphasizes the importance of cultural and social context of learning in helping children to conceptualize the world. Further, it is unable to account for variations in children's thinking. Some current theories provide a more integrated approach to early childhood care and development.

Bronfenbrenner's (1979) ecological perspective and Sameroff's (1975) transactional approach have contributed significantly in this direction. These approaches propound that children's thinking develops through joint interactions with others in a responsive social context. It recognises that children's learning and development is not limited to any one setting but is also influenced by interactions between the settings. Bronfenbrenner (1986) further reveals that development is affected by events occurring in settings in which the individual is not even present. There is thus a need to have a better understanding of the dynamics of the 'linkages' between settings, as they have important implications for early childhood programmes (Garbarino, 1993). For example the influence of parents' social network members on child's development is an area where studies are noticeably lacking (Saraswathi, 1989). Since the determinates of child outcomes are clearly the interaction between children and their environments, these ecological models

suggests opportunities for practical intervention strategies. The application of ecological perspective to analyze child development issues is well illustrated by Kobayashi (1993).

Vygotsky's socio-cultural theory also gives attention to the importance of the social and cultural context on children's thinking. Vygotsky (1978) saw development of thinking as a shared process rather than an individual one. It is influenced not only by the immediate social situation but by the cultural meanings and understanding inherent in the language. Adults take a reactive and participatory role as "children are capable of far more competent performance when they have assistance from adults in their zone of proximal development". (Smith, 1993, p.47)

Thus, in summary, early child care and development can be totally comprehensive if the various theoretical assumptions are considered and the various mediating processes that arise from environmental contexts are accounted for.

The growing recognition of the significance of early years, based on these theoretical assumptions has led to two major efforts. Firstly, more research endeavours were made to view ways in which environment can support and curtail development. Secondly, the dissemination of this new knowledge to professionals and parents has led to initiation of early intervention programmes. In the last three decades both these efforts of child development movement have undergone major changes in focus and the following sections will deal with these.

Trends in Western Research On Early Stimulation:

From 1900s to 1990s

In the first decade of the twentieth century, researchers were mainly preoccupied with two issues : survival and nutrition for babies. In the next two decades, besides medical concerns emphasis was on how mothers should manage their babies, mother-infant interactions had a low priority based on justification that "babies must not be mentally stimulated any more than they must be given tea or coffee" (Wrigley, 1989, p.57).

The 1930s paved way for later more sweeping changes in the sixties. The thirties saw the emergence of child development as a field of academic study. Gesell provided milestones of development where only impressionistic evidence existed before. Though there was little focus on cognitive development, there was an increase in the proportion of research and magazine articles dealing with young children's social and emotional growth, partly due to influence of Freudian and quasi-Freudian thinking. The economic crisis of the 1930s helped spur several government-supported programmes including nursery schools for poor children.

During the 1940s and 1950s the two major developments which influenced child development research were: provision of day care centres for children of working mothers during World War II and continued expansion of nursery schools. With increasing number of

mothers joining the labour force, studies in this period mainly dealt with effects of maternal deprivation (e.g. Bowlby, 1952). Majority of these studies indicated the adverse effects of maternal employment on the development of the child. Pioneering works of Whiting and Child (1953) and Sears, Maccoby and Levine (1957) initiated research in the area of child-rearing where before the fifties, the quality of home environment had been largely overlooked.

The 1960s marked the second spurt of interest in cognitive development. Due to the seminal writings of Bloom (1964) and Hunt (1961), there was greater recognition of the importance of early environment for child's development. Studies in the late sixties and seventies examined the relationship of the early home environment to children's development and found that specific aspects of children's home environment were strongly related to cognitive and language competence (Yarrow, et al., 1972, 1975; Bradley, Caldwell & Rock, 1988).

Mid-1960s onwards researchers increasingly accepted the image of the learning and active baby who required intelligent and appropriate stimulation, and therefore efforts at designing early intervention programmes began (Meisels & Shonkoff, 1991). In 1965, Head Start began as an eight week pilot programme in USA, on the assumption that attendance in a compensatory programme would facilitate better school adjustment and performance of children from socio-economically disadvantaged groups.

Till recently, the focus of infancy research had been the mother-infant dyad. However, in the last decade developmental psychologists have broadened their focus to study the role of the family context in shaping developmental outcomes (Lewis, 1984), particularly the role of father (Lamb, 1977; Hoffman, 1991) and the role of siblings (Wishart, 1986). The role of grandparents and other relatives as support and socialization agents have also been studied (Niethammer, 1977, Tinsley & Parke, 1984).

Mother-infant relationship continued to be a major area of research and was seen as a crucial determinant of early social-emotional development, especially attachment (Ainsworth, 1967; Erikson, 1963; Klaus & Kenell, 1976; Svejda, Campos & Emde, 1980; Symon & Moran, 1987).

Since the earlier writings of Spock (1945), learning movement has intensified in the recent decades, as evident from the increasing number of books and research articles on how to raise brighter children (Dunster, 1990; Ludington - Hoe & Golant, 1985). Content analysis of 1017 articles on recommended child-rearing practices from 1900 to 1985 showed a marked increase in the proportion of articles dealing with young children's cognitive development (Wrigley, 1989).

Researchers made significant progress in evaluating the environment in which infant live (Scarr & Eisenberg, 1993; Weissbourd & Musick, 1981), establishing that there are certain

qualities of social and care-giving environment that are nurturing and others that fail to promote development. It was seen that certain forms of stimulation are more effective for certain areas of development than others. For example, in the first six months of life animate stimulation is essential for social and language development whereas inanimate stimulation is related to cognitive and motivational development (Pilling & Pringle, 1978). Bronfenbrenner (1979; 1986) and Gamble and Zigler (1986) with their ecological perspectives to human development focussed on the quality of home environment as a context. Some of the classic infant studies comparing home-reared and institutionalized infants established that even the most depriving circumstances in infancy can be overcome considerably if favourable environmental conditions are provided (Pilling & Pringle, 1978). These findings led to a boom in early enrichment efforts and intervention studies (Meisels & Shonkoff, 1991).

Research Trends in Developing Countries on Early Stimulation and Care with Special Reference to India

In developing countries researchers have been more concerned about the nutritional and health status of young children than about their social and mental development. Researchers are now showing concern in this direction, though the focus is more towards seeking alternatives for working mothers than meeting the intersecting needs of mother and child (Ebrahim, 1978).

Recent works by Leslie and Paolisso (1989) and Landers and Leonard (1991), represent some efforts to study simultaneously the multi-faceted nature of women's work and child welfare in the third world. Cross-cultural comparison from six different countries (China, Ethiopia, India, Israel, Thailand and United States), reported by Bell and Miller (1982), Opolot (1982) and Ryback, Sanders, Lorentz and Kosetenblatt (1980) point to considerable similarities in child care between ethnic groups. These findings have resulted in several early intervention efforts in developing countries (Consultative Group on ECCD, 1993; Long, 1992; Myers, 1992; UNICEF, 1989) and these will be elaborated in the later sections.

In India though infancy has been accorded a great deal of importance in Indian cultural traditions, a paucity of documented research in this area still exists. However, an increasing interest in infancy research in India, especially in the area of early child care has been noted in the past few years. But, these studies have primarily dealt with physiological and biological aspects of infant care such as feeding and to a lesser extent the socio-psychological aspects of development.

Available research indicates that although implications of stimulation in infancy are known, there is lack of knowledge of what kind of stimulation to use and when. Sharma (1989), in the documentation of Indian research on infant care and stimulation concludes that there is a paucity of data on Indian infant care practices and reports the following findings.

- * Physical contact alone is not enough for stimulation, meaningful interactions between caregiver and child is essential.
- * There is a lack of awareness of significance of early stimulation among low SES (socio-economic status) mothers.
- * In child care services, only custodial care, and physical and nutritional care are given and safety is assured but supportive interactions and stimulating play are not provided.
- * Only one publication was located that devoted its contents to suggesting activities to mother and child care workers for play with infants.

In view of the above, Sharma (1989), recommends two priority areas:

- * Need to conduct extensive research on traditional infant care practices.
- * Need to educate families of infants and workers in programmes about competencies of babies and relationship between stimulation and responsiveness.

Since the publication of the above review of researches in 1989, two more books have been published in the area of infant stimulation. Murlidharan's (1991) book on activities for young children, covers the period from birth to six years while the book by Swaminathan (1989) deals exclusively with stimulation activities for infants. Review of these publications indicated a

need for field testing the utility of stimulation activities and play and a series of pilot studies (Ahuja, 1989; Mathur, 1988; Shah, 1989), were conducted in the Department of HDFB, M.S.University, Baroda.

Socialization studies in India have focussed extensively on children above three years, with only a passing reference to the period of infancy (see Saraswathi & Dutta, 1987). Kaur (1993) has listed infant studies as one of the priority areas of research, in the field of human development and family studies, particularly the need for studies on infant temperament and its relation to mother's temperament and ensuing interactions between the two. A review of studies such as those of Bhal and Kaushal (1987), Khalakdina (1979), have attempted to delineate the antecedent-consequent relationships between the child-rearing practices and personality variables.

Khanna's (1992) recent study deals with the implications of early child care for the development of the child with particular emphasis on mother-infant attachment. Kakar's (1979) book on 'Indian Childhood' too describes the close attachment of the infant with the mother, which is particularly manifested in the 'physical closeness' of the infant with the mother. Studies on father-infant interactions have begun only recently and show a shift in the father's role as a disciplinarian to that of a nurturant one. (Bisht & Sinha, 1981; Sharma, 1990; Roopnarina, Talukdar, Jain, Joshi & Srivastava, 1993).

With the increasing number of working women needing alternative child care support, the quality of day care environment and their efficiency have been examined (Ganapathy, 1992; Gill, 1993; Konantambigi, 1990) and were reported as being grossly underutilized. Reasons for the low attendance in creches are : (a) poor quality of services rendered, (b) inflexibility of service models and (c) absence of women's participation in designing the service models (Sriram, 1989). Therefore, mothers prefer to look after their own children and also commonly use informal social support systems. Thus the quality of home environment becomes a major influencing factor in child's development.

Intervention studies (Anandalakshmy, 1982; Dash & Rath, 1985; Murlidharan & Banerjee, 1970; Murlidharan & Mishra, 1989; Patri, 1988; Saggar, 1983) have also highlighted the importance of early stimulation for optimal development of the child, but their number is limited.

In an intervention study by Anandalakshmy (1982) on cognitive competence in infants with undernutrition, the experimental group of infants improved on all measures of the Infant Behaviour Record subsequent to several sessions of play with the infants. They improved significantly on two measures, that is, cognitive behaviour and sensory areas of interest. No nutritional intervention was done in this study. The study also revealed that, while there was no social class difference for how affiliative the mothers were towards their infants, the

mothers from upper socio-economic status provided more cognitive stimulation to their infants than their lower class counterparts. Anandalakshmy (1985) suggested that this difference between the two categories of mothers appeared to be due to lack of awareness in the mothers of the lower SES families regarding the importance of play.

Murolidharan and Mishra (1989) conducted an action research study designed to promote parent's (in urban, rural and tribal Orissa) awareness of the importance of early years and their own strengths as home educators. It also developed a home-based instructional package suitable to their immediate environment, culture and age of the children (0-6 years). It was seen that even in illiterate parents, child development skills can be developed through regular home contacts.

Mukul (1986), on Khurana's (1985) recommendation conducted an intervention programme for infant care in institutional settings. The programme which lasted for a period of two weeks aimed at providing stimulation to infants in their daily routine activities. Results indicated an increase in caretaker initiated interactions and shift from individual to group directed interactions.

The findings of research from developed and developing countries thus indicate that children's early environment is strongly related to later development and lack of age-appropriate experiences can be detrimental to infant's development and

learning. Influenced by these findings, programmes for infants were designed as preventive and corrective measures for promoting supportive parent-infant interactions and infant's development.

Stimulating Infants' Development Through Early Intervention

Intervention is an effort to redirect the anticipated trajectory of development from anticipated negative outcomes to healthy positive ones (Sigel, 1990). Intervention is regarded as enrichment when it is applied as a preventive measure and as remediation when it is corrective (Horowitz, 1980).

Recent trends in Early Childhood Care and Development (ECCD) programmes show a shift in their focus from the curative aspect to an appreciation of a preventive one. Earlier intervention programmes were created for infants with established risk such as Down Syndrome and infants with biological risk for example, prematurity. In recent years investments for children with special needs also include infants with environmental risk i.e. infants who are biologically sound but for whom early life experiences are sufficiently limiting so that they impart a high probability for delayed development. These include children with economic deprivation, sensory deprivation and cultural deprivation (Kopp & Kaler, 1989; Misra, 1982,1983).

Why Invest in Early Intervention: Some Arguments

With the accent on prevention, ECCD programmes are now particularly focussing on overcoming effects of unfavourable environmental conditions of children, particularly those who

belong to the extreme poverty groups as it is being widely accepted that children who are environmentally disadvantaged are at risk for developmental delay (Mohite, 1993; Gottfried & Gottfried, 1984; Ramey, Bryant & Suarez, 1990).

Nevertheless the field of early intervention has not been accepted universally or supported consistently. It has given rise to several controversies over delineation of its goals (Clarke & Clarke, 1976; Ferry, 1981), the specification of programme models and methods (Anastasiow & Mansergh, 1975), selection of service providers and recipients (Bricker & Slentz, 1988) and most prominently the heredity-environment controversy (Braumrind, 1993; Scarr, 1993). However, "there is a basic consensus that both genetics and environment play a role in personality development" (Hoffman, 1991, p. 190). It then follows that every child should be provided with the maximum possible environmental support to realize his/her genetic potential.

Myers (1991), puts forward certain convincing arguments in favour of ECCD intervention programmes. These are :

- * A human rights argument: Children have a right to develop to their full potential.
- * A moral and social values argument: Values such as living together harmoniously need to be transmitted as early as possible. ECCD programmes can assist parents in fostering them.

- * **An economic argument:** Society benefits economically from investing in ECCD programmes through increased productivity of children by freeing caregivers to earn and learn, and by saving social costs in areas such as school repetition, juvenile delinquency etc.
- * **A social equity argument:** By providing a "fair start" it is possible to modify distressing socio-economic and gender-related inequities.
- * **A social mobilisation argument:** Children provide a rallying point for social and political actions that can help to build consensus and organisation for the common good.
- * **A programmatic argument:** Health, nutrition and education programmes can be most effective if provided in an integrative package, thus taking advantage of interactive effects of these variables.
- * **A scientific argument:** Research demonstrates that early experiences have a lasting effect on development.
- * **Changing social and demographic conditions:** The increasing labour force participation by women which 'curtails' child care, increasing survival of vulnerable children, rapid urbanization resulting in fewer extended families and decreasing social support network for child care call for new and better approaches to ECCD programmes.

These arguments are supported by various theoretical assumptions which also emphasize the need and importance of early intervention programmes for disadvantaged children.

Theoretical Perspective Underlying Early Intervention

Intervention programmes can be effective only if they have a sound theoretical basis. As pointed out by Reese and Overton (1990), understanding of theoretical perspective behind early intervention programmes become important because theory and practice are inseparable as they interact reciprocally. Theory guides intervention practice and practice in turn clarifies and broadens the theoretical perspective. In order to evolve a sound psychological intervention theory, there is need for involvement of many disciplines such as anthropology, sociology, education, developmental and social psychology. This is essential in order to tackle the manifold problems encountered in identifying the relevant social, economic, and psychological factors involved in early intervention (Sigel, 1990).

Intervention theory and practice, both in the developed and developing countries indicate a common goal to provide services for the disadvantaged infants living in impoverished social, economic and environmental conditions. Various theoretical assumptions have contributed in the current view of effective developmental intervention.

Turner, Connell and Mathis (1980) put forth two models which justify a rationale for different views of intervention. The first is the treatment model which signifies that an individual either lacks something (deficit) or possesses something which is not maximally functional (difference). In both deficit and difference intervention models a series of events are designed to

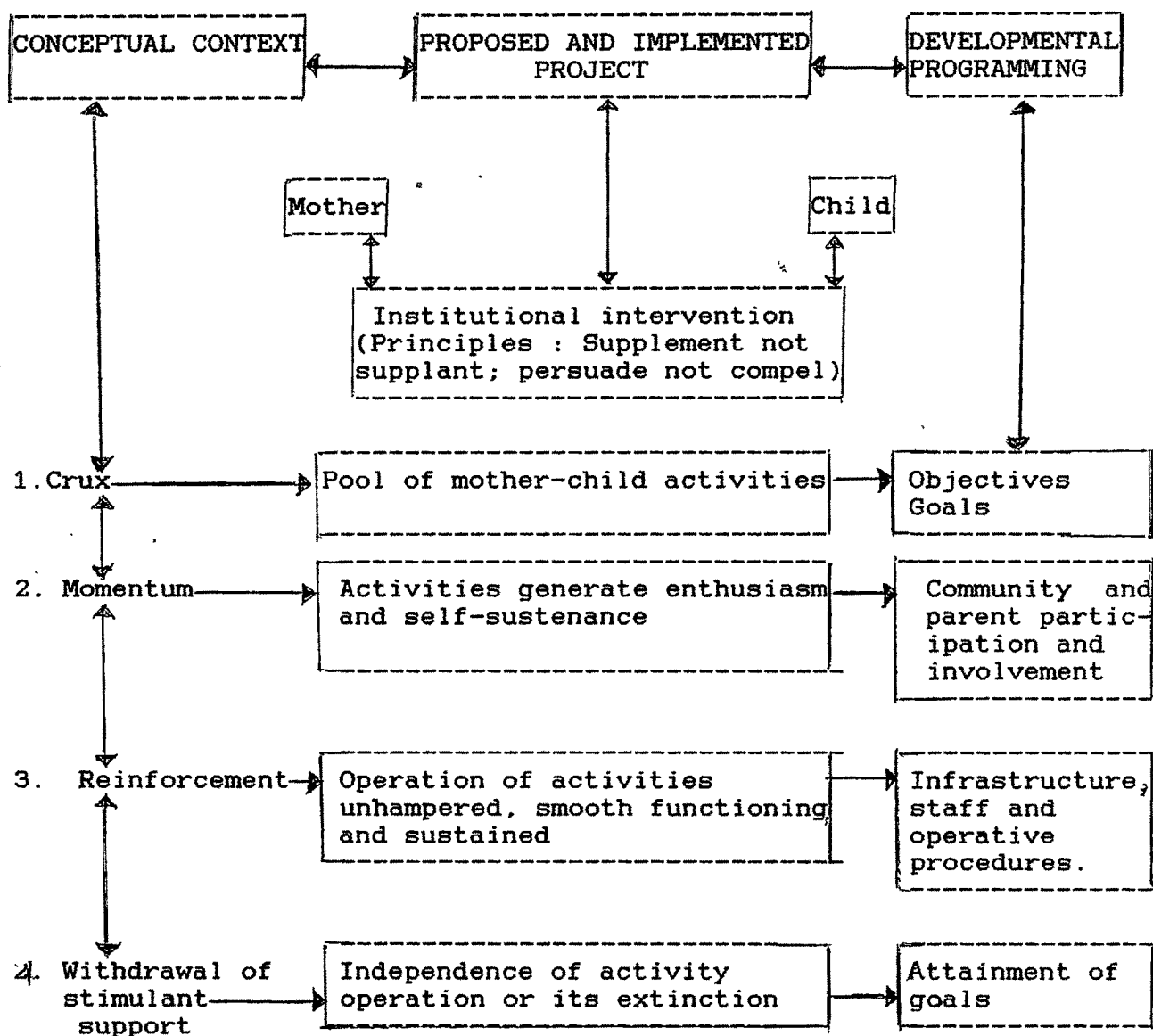
change the individual for a specific purpose. The treatment model has been used to develop various early intervention programmes. The service model in contrast is more need based and suggests that intervention programmes should provide specific services in response to the identifiable needs of the individual. Service models are being increasingly recognized by policy makers as being effective strategy for early intervention that can be developed on a large scale (Turner, et al.,1980) and is reflected in the framework of Head Start and ICDS.

Various developmental theories (given earlier) have guided effective intervention and stress on the importance of comprehensive programming that involves the child's total learning environment rather than the child in one particular setting. Hence, while planning, implementing or evaluating intervention strategies there is need to focus on children's developmental needs within the context of social environment. Further as illustrated in Figure 1, Khalakdina (1974) states that the various stages of programming influence each other i.e. good planning will help in proper implementation of programme, which in turn will lead to appropriate evaluation outcomes and vice versa.

Components of Early Intervention Programmes

Different intervention programmes show variation in their specific goals and their emphasis, depending on their approach i.e. whether they are parent/child-oriented models or centre/home-based programmes. Omnibus models attempt to provide

FIGURE 1 : Schematic Model in National Planning for Children *



* Source : Khalakdina, M. 1974, p.32)

more than one pattern of service to children and families and aim at enrichment efforts simultaneously to the infants and the parents. Some programmes emphasize the role of family, others have specific instructional objectives, often programmes emphasize a combination of the medical, nutritional, social welfare and educational components (Woodhead, 1986). However, all share the common goal of changing the environment and the community in which the child lives and thus attempt to create lasting effects on the child's course of life.

1. Providing Services for Infants.

Child-oriented models offer stimulation/enrichment activities, developmental assessment and other services almost exclusively to children with the intention of enhancing their cognitive, linguistic and socio-emotional development.

Assessment in early intervention programmes are made for the purpose of (a) description or diagnosis of child's developmental level, (b) detection or screening for developmental disabilities, (c) periodic monitoring of child's development (d) developing individualized programmes and (e) programme evaluation (UNICEF, 1989). Several groups and organizations have compiled risk list to identify vulnerable children. (King, et al., 1992).

Assessment of young children should include performance measures like Bayley's Scales of Infant Development (Bayley, 1969), Neonatal Behavioural Assessment Scale (Brazelton, 1973) even though they do not become reliable predictors of later

development until the child is three years or older. It should also rely heavily on expert opinions and descriptive data. Environmental measures such as Home Observation for Measurement of Environment (HOME) Inventory (Caldwell & Bradley, 1979) should be included because they become predictive of later development earlier than performance measures. The best prediction seems to come from combining biological, environmental and child performance data. (Kochanek, Kabacoff & Lipsitt, 1990).

Providing stimulation activities is one of the important programme services provided to infants from disadvantaged groups. Certain components of stimulation are basic to the developmental needs of an infant. The most important being the nurturant feelings of love and security through consistent support and personal contact with the caregivers (Swaminathan, 1989).

The infant caregiver needs to provide various sensory experiences including tactile, kinesthetic, auditory and visual stimulation which are essential for infant's development. Play is one of the most natural and spontaneous form of stimulation for the infant. There are three kinds of play in which infants engage namely, contingency, interacting and observing play (Ludington-Hoe & Golant, 1989). Contingency play includes movement games which encourages the baby to learn to move his body, for example, when kicking in air, the baby is rewarded by the twirl of the mobile. When baby looks at a mobile, listens to a lullaby, responds to the sounds of bell, rattles, squeeze toy, the baby is engaging in passive or observing play.

Interaction play includes games like peek-a-boo which engages baby in a one-to-one interaction with an adult or child. Lullabies/jingles are prevalent in many cultures and commonly sung to soothe or put the baby to sleep. Singh (1993) reports that most jingles in India are child-centered in terms of recreation value, often using nonsense sounds. All infant jingles also possessed developmental qualities providing age-appropriate linguistic and social experiences.

Various physical care experiences such as bathing, dressing and putting the child to sleep also provide infant a multitude of stimuli, that is warmth, visual stimulation, vestibular stimulation, sound, rhythm and muscular stimulation. For example, while bathing a child under six months of age, the traditional practice in India is to place the child in a prone position along the mothers' outstretched legs. In most parts of India, body massage is an important feature of child care, as it enables the baby to experience physical contact, warmth and security (Khanna, 1992; Singh, 1993). Thus, as Murlidharan, (1987) states :

Stimulation activities are more than a series of exercises. It is a dialogue between the child and those who care for her. An essential ingredient in these activities is warm and loving relationship between the child and the caregiver without which the activities would be meaningless (cited in Sharma, 1989, p. 3).

2. Providing Family Support.

Parents, in particular, play a crucial role in reducing the effects of deprivation in their young children. Expansion of

early intervention programmes would be meaningful only if the learning environments of children at home are also taken into account (Tizard 1974). Family support is seen as an intervention strategy within most ECCD programmes because infants cognitive and social development seem to be most affected by factors of the home environment, including the caregiver's self-esteem, confidence and emotional responsiveness; the type of discipline imposed on the child the language stimulation provided and the child's opportunities for exploratory play and appropriate play materials (UNICEF, 1989).

Parent-oriented programme models offer some kind of tutorial or group experience for parents with clear intent of having this effort produce an impact on the child by virtue of changed behaviour of the parents. (Caldwell, Bradley and Elardo, 1975). Intervention programmes should not only support parents by giving them guidance in child care practices but also recognize parents' particularly the mothers' involvement as key element,

Mothers in the developing countries need supportive intervention because of varied reasons. Research studies show that while childcare may be shared by family members (Swaminathan 1985), mothers remain the main caregiver (Ganapathy 1992; Sriram 1989). However, research studies have repeatedly indicated that mothers from low socio-economic status (SES) indulged mainly in physical interactions and giving custodial care; auditory and visual stimulation for infant's were limited. Moreover, Saraswathi (1989) points out that contrary to the

general belief, even non-working mothers in developing countries spend very little time in direct one-to-one contact with their children. Other researcher also confirm that low income women can seldom devote themselves exclusively to child care (Leslie 1987). Another reason for providing early intervention programme to parents is that they do not have access to... much of what is known about early child care (Gardener, 1973, p.129)

Fostering Mother-Infant Interaction.

At the core of development of infant is positive interactions between infants and their mothers. Numerous investigations of maternal influence on infants' functioning have revealed that mother-infant interactions, including face-to-face interactions occurring from the early months, provide the foundations of communication (Kaye, 1982), attachment and socialization (Blehar, Lieberman & Ainsworth, 1977; Field, 1982) and cognition (Schaffer, 1979, 1984 ; cited in Symons & Moran, 1987). As mother-child relationship is a crucial component of quality child care, parent education programmes should focus on teaching skills and ways to enrich mother-infant interactions and to be sensitive to infant's cues and signals. Child care may be direct or indirect. Three levels of involvement are common in competent child care. These three levels differ in the amount of adult involvement (Klaus, 1987, p.10). The adult can be near the children but not directly relating to them; this role is called stabilizing presence. An adult can enter the children's activity, interact with them, and then leave; moving in and out

of children's experience is called facilitative interaction. An adult can be total participant in children's activity; this is termed shared participation. In any three levels of adult involvement, a competent caregiver observes the children and focuses on their actions and words.

Other researchers (Ganapathy, 1992; Saraswathi 1989) have also recognized availability for child care as different from actual child care and attempted to operationalize it based on the degree of proximity of caregiver to the child. The six categories delineated were : touching (the child) i.e. within physical reach; within sight; within hearing and calling distance, reported (as when child and parent are not near each other or have gone out together). Maternal interactions can also be defined according to the quality of interactions, namely supportive, neutral and restrictive and under each the mode of interactions can be physical, verbal and non-verbal (Khurana, 1985; see Appendix E for definitions of various forms of interactions).

Findings from various mother-education programmes (e.g Bomen Patel, 1983; Iyer, 1981) show that stimulating mothers raised infants' competence, restricting mothers depressed it while laissez-faire mothers have no consistent effect on it. Programme planners therefore need to understand the factors influencing these interactions.

Variables influencing mother-infant interactions :

Mother-infant interaction is influenced by maternal characteristics like maternal attitude, temperaments, coping strategies (Svejda, et al., 1980). Studies reveal the relationship between contingent responses by caregiver and subsequent behavior of infant (Anandalakshmy, 1982). Social class too affects the mother's behaviour with her infant, through its influences both on attitudes and life styles.

Infant's own characteristics also contributes significantly to the dyadic interaction with mother and in turn to infants' own developmental course. Infants' temperaments (Sroufe, 1985), competencies (Trotter, 1987), coping styles (Myers, Tarvis & Creasey, 1987), gender (Goldberg & Lewis, 1969), nutritional status, (Nakhate, 1985) and rhythms (Stevenson, Roach Ver Hoeve & Leavitt, 1990 ; cited in Khanna, 1992) differentially influence maternal response towards the infant and the stimulation provided. Thus, mother-infant interactions involve a double way process which enables them to adapt to each other and mutually get the stimulation needed for further interaction.

Therefore efforts to sustain the impact of early childhood programmes should not overlook the role of home in affecting child's development. As Bronfenbrenner (1974, p. 300) points out, the family seem to be the most effective and economical system for fostering and sustaining the child's development. Without family involvement, intervention is likely to be unsuccessful, and what few effects are achieved are likely to disappear once the intervention is discontinued.

3. Training Personnel of Early Intervention Programmes.

Proper training of child care personnel is perhaps one of the most important factor associated with implementing and sustaining high quality ECCD programmes. Training is essential in helping adults to perceive and respond sensitively to the developmental needs of children. (Honig, 1985).

The training package for caretakers of infants : In today's world one is surrounded by communications which are intended to be persuasive. The term persuasive communication includes any materials which are produced and diffused and any activity which affects the awareness, knowledge, motivation, attitude or behaviour of any audience. (UNICEF, 1986)

There are different forms of persuasive communication like radio talks, printed material, slides cum audio tapes, video cassettes, television shows etc. Some however, are more effective than others. One of the reasons for the differences in the persuasiveness of communication is the use of effective field testing, planning and executing campaigns. In this reference the term 'field testing' of the communication material can be associated with all forms of activity in which one might engage in order to predict the impact of a persuasive communication prior to its mass diffusion. The ideal pre-test would supply information to the communicator concerning each of the processes which the communicator hopes to affect. One mode of how a communication affects behaviour can be: Awareness --->

Comprehension ----> Attitude Change -----> Decision to Act ---->
Action. (Defleur, & Rokeach, 1989).

It is important in any training programme for infant care-givers to identify its goals clearly (Honig, 1985) and develop a qualitatively rich content (Mathur, 1988). A training programme for infant caretakers must consist of:

- * Information on the growth and development of infants.
- * Practical applications of research findings for caregiver.
- * Understanding of interaction or communication strategies.
- * Information on the principles, procedures and arrangement for a conducive infant care environment.
- * Ways to develop caregiving skills and build self-esteem and decision making skills in parents.
- * Ways to help parents in using the infants' behavioural cues to guide their own responses and actions, thus enrich parent-infant interactions.
- * Ways to make parents aware of community resources and encourage its use.

The training strategies : Besides developing appropriate training package a training programmer needs to plan effective strategies for implementation of the training programme. Some recommendation regarding effective training strategies that have emerged from several studies and national and international conferences are as follows :

- * A system of appropriate and effective linkages needs to be established in the training process for all levels of ECCD personnel.
- * There is need to have some in-built strategies to monitor and evaluate the personnel and the training programme (Verma, Mistry & Malhotra, 1985).
- * The basic approach and strategy adopted in training programmes must shift from training to trainee development where both learn from each other. While planning, one must keep in mind that it is planning for "us" and not for "them". (Symposium on New Directions in HDFS, 1990).
- * Immense strength can be drawn from the rich tradition of human values that form the core of Indian culture. Thus, training programmes need to inculcate the basic humanistic values in the trainees. (Symposium on New Directions in HDFS, 1990).
- * For a durable and relevant outcome the training programmer should support and build on local customs and traditions that have been devised to cope effectively with problems of child care and development (UNICEF, 1989).
- * While difficult to achieve, the training given to child development personnel requires a balance between theory and practice. Theory should be incorporated into experience in a way that fosters continuous and systematic analysis (UNICEF, 1990).

- * Method of learning by doing and other methods such as group discussion, games, demonstration, role play and audio-visual aids should be used rather than lectures and assignments (Bhalla, 1985).
- * Tasks need to be given in a graded manner from simple to complex (NIPCCD, 1986).
- * Ratio of trainer and trainees must be 1 : 10 (NIPCCD, 1986).
- * Last but not the least, it is recommended that it is better that the trainees learn a few things but know and understand them well. (Sharma, 1987).

Thus early intervention efforts range from prevention, to identification, to assessment, to service delivery.

Effectiveness of Early Intervention Programmes

The main aim of early intervention has been to ameliorate mother-infant interaction and thereby to promote infant's development. The major questions being asked by developmental psychologists are: To what extent is early intervention effective? Does early intervention have an effect on later development?

Evidence from Developed Countries

Since the mid-1960s, developmental researchers have been investigating how to design early intervention programmes to help disadvantaged children. Numerous home-based and centre-based programmes have been implemented in USA in the past three decades. Some of the major trends emerging from overview of

previous intervention studies (see reviews by Bronfenbrenner, 1979; Bryant & Ramey, 1987; Clarke-Stewart & Fein, 1983; Consultative Group on ECCD, 1993; Honig, 1985 and Landsdown, 1990) are as follows:

- * The evidence is very strong for short-range effects of early intervention within the first three years of life, results for long term effects however are conflicting.
- * The 1960s evaluation of a series of small scale experimental programmes and of Head Start, concluded that the immediate advantages to participant children "washed out" within one or two years, discouraging investments in early intervention.
- * The above conclusion did not hold up for long as outcome criteria broadened beyond effects on IQ and academic achievements and follow-up studies were introduced. In the late 1970s and early 1980s a set of evaluations studied subsequent development and performance after 7 to 12 years and found that participation in well implemented ECCD programmes can have significant long-term effects. (Gray & Klaus, 1970; Lazar, Hubbell, Murray, Rosche & Royce, 1977).
- * Recent reviews too support that there are reliable effects of developmentally oriented programmes on children's language and cognitive skills (Bryant & Ramey, 1987).
- * While earlier intervention studies emphasized cognitive curriculum and cognitive outcome measures, long term studies have indicated that the social and motivational effects of

early intervention may be the most important long term effects of programme participation. (Schweinhart & Weikart, 1980).

Issues involved in evaluation of early intervention programmes: Other reviewers (e.g. Haskin, 1989; Lazar et al., 1982; Ramey et al., 1990, Scarr & Weinberg, 1986), however have not been as optimistic about the influence of early intervention efforts on development. This is because evaluations of early intervention are usually field studies, and methodological problems obscure positive results (Clark-Stewart & Fein, 1983). Studies that demonstrate statistical significance often have major design flaws (King, Logsdon & Schroeder, 1992). The common tendency that most behavioral researches suffer from is to examine unidirectional relationships between some variables designated by the investigator as antecedent and others as consequences, which provide simplistic or misleading conclusions. Scarr (1985) illustrates the benefits of including proximal as well as distal variables in studying the effects of parental management techniques on children's development. To quote ;

An experiment that divorces behaviour from context would not generalize to the population of parents and children in the real world, where all of these variables co-occur. The system in which parental and child behaviour occur is, in my views, intrinsically confounded. The truth about this world cannot be simulated by the isolation of single variables, because parent and child characteristics have non-additive effects on each other (pp. 508, 510).

Clarke-Stewart and Fein (1983) have discussed at length the methodological problem and issues related to intervention studies and specifically comment on the narrow range of research designs, lack of procedural refinement and sophisticated analysis. They suggest that when researchers move from laboratory to field, they must give up elegance for the sake of relevance, thereby forfeiting a large degree of rigorous controls, used in laboratory settings. But this in turn gives rise to the issue of generalizability.

Lack of randomization and control and attrition are major threats to the validity of most studies. Consequently useful generalisation pertaining to programme content and reliable strategies cannot be made. Early intervention studies face additional problems related to assessment of infants and on-the-spot observations of family interaction in naturalistic settings. Assessments of adequacy of social and emotional development during infancy have rarely been included as outcome measures (Lyons-Ruth, Connel & Grunnebaun, 1990). Timing of an assessment is also critical (Brazelton, 1990). Therefore, bringing about methodological refinement and rigor is a priority area in intervention studies which can be achieved to a large extent through use of longitudinal designs. Conventional statistical package cannot deal adequately with many problems of impact studies, therefore a multi-level approach is required (Landsdown, 1990; Schmidt, 1992).

Particular attention needs to be given towards comprehensive monitoring and evaluation of the programme to ensure that it is viable and effective in the field. Monitoring envisages comparison of what is being achieved with what is intended to be achieved. This leads to corrective action at various performance levels so that the objectives of programme are achieved as envisaged. Evaluation of a programme is necessary to take stock of the existing situation, the flow of inputs vis-a-vis the output of the benefits that are flowing to the client groups and to assess the impact of services on the quality of life of these groups. Thus, evaluation includes periodic assessment of the effectiveness and impact of the services and monitoring is a continuous process which points out the progress and efficiency with which the services are being carried out or implemented (Miglani, 1986).

Variables affecting children's progress in intervention programmes: Some major synthesis of early intervention studies (Landsdown, 1990; Lazar, et al., 1982; Ramey, et al., 1990), conclude that inspite of the many field and methodological problems, some aspects of early intervention ensure its effectiveness.

- * The more intensive the intervention, greater the effects.
- * Programmes which focussed on inculcating basic skills rather than broad academic goals were found to be more effective.
- * Involvement of parents had longer lasting effects.

- * The smaller the adult-child ratio and smaller the group of children, greater the recorded cognitive gains.
- * Staff training on child development produced more gains than those who have not had any child development oriented training.
- * Effects were seen to favour children who are at a disadvantage because of their economic, gender or social background. However, the families who are under the most economic and psychological stress are the ones least likely to become involved in an intervention programme (Bronfenbrenner, 1975).

It can be concluded that intervention programmes can positively effect children's development. Specifying the nature and extent of the impact however, has become more complex than previously assumed (International Children's Centre, 1979, p.4). Long term effects reported from USA have given rise to the need to determine whether and under what conditions similar results can be expected in context of developing countries (Myers, 1989).

Evidence from Developing Countries

Evidence is beginning to accumulate from studies in Latin America and Asia indicating that long-term benefits of early intervention are also possible in the developing countries inspite of seemingly unsurmountable problems that tend to impinge upon them. This has led to increased emphasis and expansion of ECCD programmes in India, Thailand, Philippines, Brazil and other countries (ICDC/UNESCO/UNICEF, 1988).

Although a complete picture of coverage rates is not currently available and nor are evaluations carried out for all programmes, there have been several reviews of early intervention efforts, for example, the World Organization for Early Childhood Education published a report in 1983, summarizing 18 intervention studies. More recently Halpern and Myers (1985) and Myers (1989 and 1993) have added upto-date information. Myers and Hertenberg's (1987) review of 15 programmes, mainly from Latin America, not only presented the programme descriptions and results of programme evaluation but also included cost calculation with sufficient information to know how the calculations were made. A report by UNICEF (1990) summarizes programmes in five countries : India, Benin, Nepal, Colombia and Kenya. It reviews issues related to programme design, management and operation, monitoring, evaluation and expansion. The Consultative Group of ECCD (1992) and Landers and Leonard (1992) provides additional information on the status of ECCD programmes in eight countries including Sudan, Sri Lanka and Bangladesh.

Table 1 presents the salient features of some major early intervention programmes in developing countries, based on the above reviews.

Some major conclusions emerging from overview of these review are as follows :

- * First and foremost it is clear that there is no need to "re-invent the wheel" as many efforts to support children and families exist in the developing countries "What is

TABLE 1

Early Childhood Care and Development (ECCD) Programmes in Developing Countries: In Brief

Sr.No	Programme Name (P) and Model (M)	Programme Beneficiaries and Benefits	Programme Strategies	Programme Training	Programme Strength
1.	P : Homes of Well-Being (1987), + Colombia. M : Home day care	<ul style="list-style-type: none"> - Attend children (1-7 years) (Coverage : 80,000 children) - Provide job to caregivers - Free Mothers' time for economic activities - Promote community development 	A large scale community based programme where women care for neighbourhood children in their own homes.	<ul style="list-style-type: none"> - Receive training in child development, health, nutrition, family and community relationships. 	Community members participate in an initial analysis of the community's needs for services based on children's ages, income, physical and environmental variables.
2.	P : Entry Point, Nepal. M : Day care within programme of credit to women	<ul style="list-style-type: none"> - Attend children (1-7 years) (Coverage : 1700 children & 54 groups of mothers in operation in 1989) - Provide job to caregivers - Free Mothers' time for economic activities - Promote community development 	Groups formed by women for cooperative/credit programme, also becomes unit for organising day care in one of their homes.	<ul style="list-style-type: none"> - Receive 4 days intensive course and basic kit of materials (2 dolls, 3 puppets and a drum). - Training aims at building women's confidence as mothers. 	<ul style="list-style-type: none"> - Neighbouring groups exchange materials periodically so that children are exposed to wide variety of play materials. - Since majority of women are illiterate, pictures of different activities by innovative non-governmental organisation are used in curriculum and training.
3.	P : Family Day Care Homes (1973), Venezuela. M : Home day care	<ul style="list-style-type: none"> - Attend children (Coverage : 1,01,986 children in 1990). - Provide direct subsidy to families with young children at critical poverty levels. - Promote participation of organisations in child welfare. 	Mothers provide care in their homes to 5 children. A new variation on home day care has been added in which 30 children are cared for by 3 home day care mothers in densely populated communities.	<ul style="list-style-type: none"> - Receive training and appropriate educational materials. 	<ul style="list-style-type: none"> - Every 20 day care homes were supported by a technical assistance team including a child care and a social worker, a teacher, a coordinator and legal advisor for every 3 technical team.

needed is an effort to strengthen the existing services, disseminate or publicize the lessons learnt from small scale successful programmes, a willingness to promote and support the integration of services between governmental departments and non-governmental organizations" (Myers, 1993, p.4).

- * Early intervention is a young although a rapidly growing field; earlier programme efforts were being directed towards formal education. In the developed countries also, ECCD was not a priority area, for example, the Jomtein World Conference on Education for All, convened in 1990 and the first meeting of the Education for All (EFA) Forum held in Paris in December, (1992) did not include early childhood development on the agenda. It was included in the second EFA Forum held in Delhi, India in September 1993.
- * A scrutiny of early intervention programmes reveal that majority of these programmes are targeted towards low-income families. A large number of programmes exist for young children but very few are for under threes.
- * Several efforts have been made to establish close linkages between child survival and development programmes. In some cases such as in Nepal and Ecuador child development programmes have been integrated into women's income generating activities, thus responding to the intersecting need for women's work and child care.
- * There is a bias towards centre-based programmes, though several examples of home-based programmes of parental education are functioning in Ethiopia, India and Thailand.

- * The programme evaluations indicate the desirability of parent and community participation in the process of developing the services.
- * Although the evidence is generally very strong for short-range immediate effects of early intervention, the findings of studies conducted have been inconclusive and conflicting with respect to the extent to which exposure to ECCD programmes bring about positive long term changes in cognitive, social and emotional development of children. This is because in the Third World, there is an absence of rigorous longitudinal studies (Myers, 1989,p.19).
- * The case studies from India and Colombia illustrate large-scale efforts to reach impressive numbers of children in need of services (UNICEF, 1990).
- * However, in India, even in the ICDS projects which aim to provide an integrated package of services to children, studies (for e.g. Sahni & Aggarwal, 1989) have indicated that the Anganwadi fulfilled only the purpose of food distribution and as a immunization centre for children below three years of age. A major problem in execution of ICDS has been that expansion and improvement did not go hand-in-hand (Murlidharan & Kaul, 1993.) However results of the limited intervention studies that have been conducted, indicate that well planned ECCD programme do make an impact and foster development. Interventions aimed

at improving the skills of the workers have proved successful and have directly affected children's cognitive and language abilities. (Dash & Rath, 1985; Gupta & Rahgir, 1984; Saggar, 1983; Murlidharan & Mishra, 1989).

- * Evaluation researches in developing countries face many methodological and field problems, some of which are common to the ones occurring in developed countries, mentioned earlier. Saraswathi and Dutta (1987) have highlighted some major methodological issues in research in developmental psychology in India, including issues on lack of a conceptual framework and a clear rationale for sample selection, lack of valid and reliable tools and inappropriate use of statistical measures. These methodological problems are similar to the ones characterizing research in ECCD. Iseley (1993), adds that a vital concern of researchers in ECCD is the lack of shared meaning among two or more observers using observational procedure to study child care practices. As a field-tested solution, she offers the use of coding categories, including assigning numerical codes to enable observers to agree upon meanings and to collect comparable, reliable data. The problem is aggravated when observers come from diverse cultural backgrounds stemming from class, caste (jati), rural versus urban residence, or difference between societies, the probability of not sharing perceptions and definitions increases.

A major problem confronting early childhood education programmes in developing societies is the lack of suitable models derived from relevant cultural settings. ... In Asian societies, for example where communal and family responsibilities are highly valued, models of early childhood education that are drawn from westernized notions and which emphasize individualistic, competitive behaviour are inconsistent with the values of the community and are clearly inappropriate. The search for indigenous models of early childhood education for developing nations is an imperative (Bernard Van Leer Foundation, 1981, cited in Saraswathi, 1993, p40).

Based on papers by Mohanty and Prakash, (1993), Dash and Kar (1993) and Sinha and Mishra (1993), which focus on methodological concerns and issues confronting Indian research in ECCD and suggestions of dealing with the same, Kaur (1993) highlights three issues :

- First, while it is true that meta-analysis can help consolidate the empirical information base, thus providing internal validity to the findings, it is not substitute for sound theory. For external validity, that is generalizability beyond the situations in which the data have been generated a comprehensive conceptual framework is a pre-requisite.
- Second, over-emphasis on quantification and statistical testing needs to be curbed and replaced by a search for and acceptance of alternative ways of collecting data and testing its validity.
- Third, inspite of practical difficulties of co-ordination and lack of continued funding, there is dire need to conduct longitudinal and follow-up studies and multi-centric studies, using multiple methods of data collection and interdisciplinary research team. Such an approach is needed in order to establish a

systematic and coherent body of information documenting the diversity of situations/environments confronting a developing individual and the multiplicity of ways in which he/she interacts with these (p.325).

Guidelines for Effective Intervention Programmes

There is little doubt that intervention can make statistically significant difference in children's physical and mental development. (Gottfried & Gottfried, 1984), but this is only true of good quality ECCD programmes. Though there has been considerable discussion on importance of quality programmes for young children, very little research has been done to find out which specific aspects of programme quality are directly related to children's better performance. This becomes essential in order to delineate the crucial indicators of programme quality that need close monitoring. (Kaul, 1991).

Thus on the basis of review of research certain guidelines have been put forth to help ensure programme quality and effectiveness. These include :

- * Priority should be given to children of poverty groups who are at - risk of delayed or debilitated development (UNICEF, 1989).
- * Intervention meant for children cannot have a narrow focus on children only (Kaur, 1993). To maximize programme benefits, it should be participatory, community-based, flexible and adjusted to different socio-cultural contexts. (UNICEF, 1981).

- * Efforts to link ECCD with parent and community involvement are more likely to succeed if (a) community involvement is an integral part of programme planning right from its inception; and (b) conscious efforts are sustained to enable the community to become self-sufficient ultimately (Saraswathi, 1993, p.44).
- * Programme should form part of a comprehensive, multi-faceted strategy. (UNICEF, 1989).
- * Programme implementation can be effective if the programme is integrated with training and evaluation needs. Efforts should be made to improve these three component in order to get the desired outcomes (UNICEF, 1990). Unless evaluative information is available to understand constraints, the mid-course modifications cannot be introduced to improve and strengthen the implementation of the scheme (Mistry, Kaul, & Dhar, 1986).
- * Programme should be cost-effective, financially feasible and sustainable over time (UNICEF, 1989). To achieve quality programme, there is need to re-evaluate the budget priorities in terms of improving the quality of infrastructure development, available materials and equipments and in-service and on-site training of personnel working with children (Mistry, et al., 1986).
- * A developmentally appropriate curriculum that features child-initiated learning activities within a supportive environment is essential for quality of ECCD programmes (UNICEF, 1990).

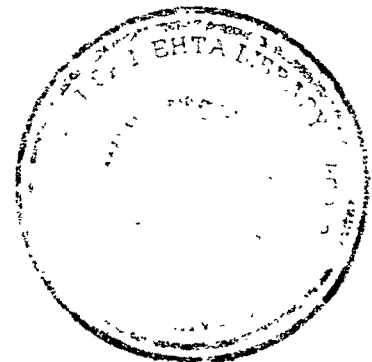
- * No one programme solutions exists due to the wide range of needs of at-risk children and the variation of the family environment (Landers & Leonard 1992). Early intervention should include home-based programme strategy as it attempts to change a broader network of influences on development.
- * One model by which national coverage can be achieved is by linking a range of local and regional efforts that have a common goal but different strategies for reaching that goal (Consultative Group on ECCD, 1993).

In summary, research literature suggests that quality is best understood as a blending of specific ingredients. For example, a favourable training component, in the absence of parent participation, may ultimately have little impact on children's outcomes (UNICEF, 1989).

The above review highlights the following points :

1. Early stimulation plays a crucial role in promoting optimal development of young children.
2. The significance of stimulation, depends not only on the kind of stimulation given but also on how it is provided to the infant. The child's stage of development and individual needs would influence the amount, variety and timing of appropriate stimulation required to be provided by the adult. An unfavourable environment for the child can be highly detrimental for the child's development.
3. Review of literature indicates that there is a critical relationship between specialized training and quality of infant care.

4. Quality early intervention programmes for caregivers need to be culturally relevant. They should reinforce caregivers' existing knowledge and innate capacities to provide optimal care to infants as well as generate new knowledge and activities to enhance mother-infant interactions.
5. Caregivers need to have certain qualities to foster infants' development. The caregivers interaction with each child should be marked by sensitivity, responsiveness and an appreciation of their reciprocal nature.
6. In conclusion, it can be said that the quality and efficacy of early intervention programme will largely influence whether or not such a system can ameliorate infants' development and their family conditions.



Rationale of the Study

The review of literature indicates that there is an interplay of various variables that influence the infant's development. The understanding of the importance of these variables would aid in planning of intervention programmes. It is also established that the basic needs of development go beyond protection, food and health care to include the need for affection, interaction and stimulation. It is pertinent therefore to assume that infants' caregivers can provide infants with opportunities for development through sensory stimulation and play activities.

In an attempt to meet these needs, the Integrated Child Development Services (ICDS) Scheme of Government of India caters to mothers, infants and children living in impoverished socio-economic environmental conditions. As per its objectives it provides an integrated package of services of immunization, growth monitoring, health check-up, referral services, nutrition, health education and non-formal pre-school education. With the aim of meeting the needs of infants and mothers it is also proposed that the AWs be converted into Anganwadi (AW) cum Crèche Centres by the end of the seventh five year plan. A major lacuna in the programme however is that while the Anganwadi workers (AWWs), the grassroot level workers of the ICDS Scheme, have generally been successful in serving children above three years of age, they have not had the same degree of success with respect to younger children. In view of the above the following needs have emerged from the review of literature:

* Need to develop infant stimulation programme (ISP) package

Although in the conceptualization of the ICDS Scheme infants are important beneficiaries, evaluation of its services have repeatedly indicated that in actual practice services for the children under three years of age are limited to health and nutrition while developmental aspects remain virtually untouched. Interviews with DCCW (Delhi Council for Child Welfare) that trains Anganwadi workers (AWWs), have also revealed that the 'Guide-Book' they follow for training does not mention any specific activities for mothers of infants which is reflected in the lack of developmental inputs for infants in AWs. In child-care centres too, the situation is similar (Khullar 1991; Sharma, 1989). Therefore, one of the first needs is to provide a stimulation programme for infants, especially for the poorer sections of the society. To meet this priority there is a need to develop training programme packages which meet the requirements of the grassroot level workers and are socio-culturally relevant for workers as well as clients.

* Need to sensitize infant caregivers to infants' development and care.

Studies (eg., Ahuja 1989; Anandlakshmy 1982 ; Shah 1989) have indicated that mothers in the urban slums mainly indulged in carrying the child and giving custodial care. A general belief that prevailed was that the needs of infants are limited to health, nutrition and physical care. Therefore, the quality of child care should not be left to the mother's experience alone

(Gill 1993). Parents' role as the first and most natural care givers and teachers need to be strengthened.

Special training to Anganwadi Workers (AWWs) in providing knowledge and guidance to the mothers regarding infant care, development and stimulation is non-existent and this also needs to be looked into, more so because in many areas, the AWW is the only available and accessible resource person the parents can turn to. However, isolated training of the grassroot level workers is unlikely to be effective unless other vertical level personnel are also included in the training.

* Need for a three-level early intervention programme.

The advantages of a three level input i.e. the investigator trains the AWWs, who in turn trains the mother in ways of fostering infants' development are many. Programmes which involve the family and have a community-integrating comprehensive approach are more effective than programmes involving only parent-education or only with children away from home. (Kagitcibasi, 1991).

* Need to disseminate information on the ICDS programme.

In a programme like the ICDS, better implementation and utilization of the services may be expected to occur when functionaries as well as the mothers are fully aware of the programme inputs for infants, however very little educational efforts have gone into the same.

* Need for comprehensive monitoring and evaluation of the ISP.

As reiterated at the inception of the ICDS, there is need for emphasis on monitoring and evaluation which are valuable tools for getting feedback, proper implementation and co-ordination of the programme. To ensure viability of the training programme, evaluation of its impact needs to be made at each level, namely, the AWW's, the mother's and the infant's level.

Emerging from the above viewpoint, the present study envisaged that a programme be developed to train AWWs of the ICDS regarding infants' development and ways to foster development, who in turn could educate the mothers, regarding infants' care and developments. A schematic model of the study is presented in the Figure 2. The objectives pursued in the study were as follows:

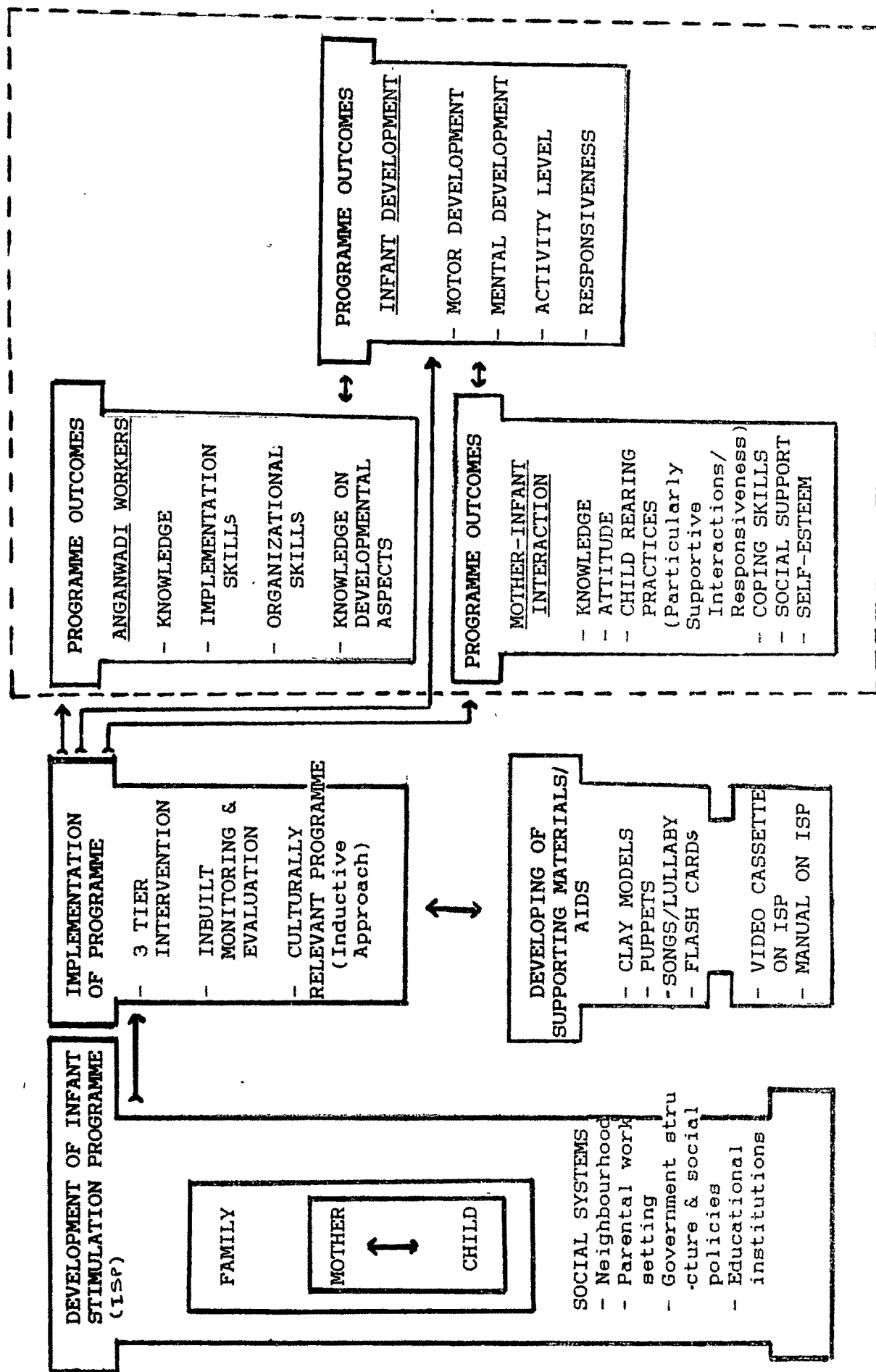
Broad objective

To study the effectiveness and feasibility of an Infant Stimulation Programme mediated through the AWWs to the mothers on mother-infant interaction and infants' development.

Specific objectives

1. To develop the Infant Stimulation Programme based on milestones of motor and mental development, stimulation activities to foster development and guidelines to implement the programme.
2. To train AWWs to implement the programme to mothers by making them aware of developmental milestones of infancy and stimulation activities to foster development.

FIGURE 2 : SCHEMATIC MODEL OF THE STUDY



3. To evaluate the efficacy of programme based on the mother-infant interaction and infants' motor and mental development.
4. To develop a training kit comprising of (a) a manual for Infant Stimulation Programme with guidelines for users, (b) a video cassette of the programme.