The Integrated Child Development Services (ICDS) programme is well-conceived to address the major causes of child undernutrition in India. ICDS has expanded over its 30 years of operation to cover almost all development blocks in India and offers a wide range of health, nutrition and education services to children, women and adolescent girls.

However, there is a mismatch between the programme’s intentions and its actual implementation. The key mismatches are:

- The dominant focus on food supplementation is to the detriment of other tasks envisaged in the programme, which are crucial for improving child nutritional outcomes. For example, enough attention is given to improving child-care behaviours, and on educating parents how to improve nutrition using the family food budget;
- Service delivery is not sufficiently focused on the youngest children (under-three), who could potentially benefit most from ICDS interventions. In addition, children from wealthier households participate much more than poorer ones and ICDS is only partially succeeding in preferentially targeting girls and lower castes (who are at higher risk of undernutrition);
- Although programme growth was greater in underserved than well-served areas during the 1990s, the poorest states and those with the highest levels of undernutrition still have the lowest levels coverage by ICDS activities.

In addition to these mismatches, the programme faces substantial operational challenges. Inadequate worker skills, shortage of equipment, poor supervision and weak monitoring and evaluation detract from the programme’s potential impact. Anganwadi workers are overburdened because they are expected to provide pre-school education to four- to six-year-olds as well as nutrition services to all children under six. Consequently most children under three and most of their parents are not reached for counseling regarding better feeding and child-care practices. However, examples of successful interventions (Bellary district in Karnataka) and innovations/ variations in ICDS from several states (the Integrated Nutrition and Health Project – INHP II – in nine states, the Dular scheme in Bihar and the Tamil Nadu Integrated Nutrition Project – TINP – in Tamil Nadu) suggest that ICDS has potential for better implementation and achieve greater impact on nutritional status of children.

Evaluation of Nutrition Component of ICDS

Earlier evaluations: The nutrition component of the ICDS programme has been the subject of a large number of evaluations. Most evaluations have focused on the quality of infrastructure and inputs, and the execution of activities. Consequently, research scientists have been unable to use the statistically rigorous methodologies that would enable them to draw more reliable conclusions about the impact of ICDS on nutritional status. As a result, some studies have found that the programme is associated with improvements in nutritional status, while other studies have failed to find a positive effect. To be sure of measuring the impact accurately, it is necessary to have data on treatment and control populations, preferably over at least two time periods. There have been few rigorous evaluations of the programme’s impact on nutritional status or health outcomes, partly because there are few sources of data that permit the comparison of outcomes among recipients and non-recipients of the programme. The major national-level study of programme impact found that the prevalence of underweight was lower among children in areas with the ICDS programme than elsewhere, for both children under three and children aged three to six, but given the sample sizes of the control and treatment groups, both these differences are not statistically significant.

Recent evaluations: Three recent studies have estimated the association between having an anganwadi centre in a village and the likelihood that a child is underweight, and find little or no association between the presence of an ICDS centre and child nutritional status. Using multivariate analysis of the 1992/93 National Family Health Survey (NFHS) data, the World Bank estimates that, for boys, having a local ICDS centre is associated with a 5 percent reduction in the likelihood of being underweight, but that there is no significant association for girls. Using both the 1992/93 and the 1998/99 NFHS data, Das Gupta et al find that the programme appears to have a significant and positive effect on nutritional outcomes. However, on more rigorous exploration, using propensity score matching techniques, they find little significant effect when children in ICDS villages are compared with children with similar demographic, household and village characteristics in non-ICDS villages. In a multivariate model of cross-sectional data collected in Kerala, Rajasthan and Uttar Pradesh between 2000 and 2002, Bredenkamp and Akin find that children who live in villages with anganwadi centres (AWC) are not significantly less likely to be underweight or ill than other children. When using data on actual attendance at anganwadi centres in six states, it is found that only in Kerala is this significantly associated with better nutritional status. There is also not much evidence that ICDS has been successful in attaining its goal of improving the coverage of specific child health interventions such as de-worming and vitamin A supplementation, and encouraging mothers to adopt appropriate child-care and feeding behaviours (including practices related to breastfeeding, weaning and diet) that have the potential to improve child growth and health outcomes. Data from Kerala, Maharashtra, Rajasthan and Uttar Pradesh show no clear evidence that these behaviours were more common in ICDS areas, with the exception of Maharashtra. Although communication for behaviour change through the anganwadi workers (AWW) is a crucial weapon against poor health and malnutrition, it appears that any information that the AWW is conveying to mothers is not being communicated effectively enough to impact positively on mothers’ behaviour.

Geographical Targeting

The percentage of administrative blocks covered by ICDS has reached almost 90 per cent. However, the percentage of children who actually avail the services provided by the programme is lower and varies considerably across
states. By December 2002, only one quarter of children aged between six months and six years benefited from the supplementary nutrition programme (SNP) component of ICDS, on average, with this figure ranging from little more than 10 per cent to over 90 per cent across the states. Coverage is particularly high in the North-eastern states (Figure 1).

**Characteristics of Children Attending the Anganwadi**

Effective targeting of nutrition interventions is aimed at providing the food supplements to those individuals or groups that are most vulnerable to undernutrition, so that social returns are maximised and costs minimised. However, taking into account the high prevalence of undernutrition and the administrative costs associated with screening and rigorous targeting ICDS policy follows the general guideline that a “special effort” should be made to reach “children belonging to poorest of the poor families and living in disadvantaged areas including backward rural areas, tribal areas and urban slums”. There is an explicit targeting of the severely malnourished who are to receive double food rations. World Bank undertook an end line survey of ICDS II in Kerala, Maharashtra, Rajasthan, Uttar Pradesh, Madhya Pradesh and Chhattisgarh during 2000-2002 which provided the information on ICDS attendance by age, location, gender and household income in these states.

Early childhood is a crucial period for growth in children and growth could be optimised by encouraging sound child-care and feeding practices. However, infants and children under three are least likely to attend the anganwadi centre. Attendance is lowest among the youngest children, then increases steadily - sometimes fairly dramatically as in the case of Kerala and Maharashtra - until the age of three after which it remains more or less constant (Figure 2).

In Kerala and Maharashtra, almost every child aged four to six (in this sample) attended the AWC at least once a month. Attendance rates are less than half of that in the other four states. There was no statistically significant difference in the participation rates of boys and girls, either among the group that attends the anganwadi centre on a daily basis or among those who attend at least once a month. There, thus, appears to be no gender discrimination in the reach of ICDS services.

Among children living in villages with anganwadi centres, there were no differences in participation rates across income quintiles (Figure 3). Within each state, there is not much more than a 10 percentage point difference across the quintiles in the percentage of children attending. This implies that a poor economic background does not present too formidable an obstacle to ICDS attendance. However, poorer children are more likely to be undernourished; it is desirable that ICDS attracts a larger share of lower quintile than upper quintile children. Maharashtra is the only state where attendance does decline steadily in higher income quintiles; in Chhattisgarh and Uttar Pradesh, attendance is slightly lower in the top quintile; in Kerala and Madhya Pradesh, however, where there are higher attendance rates in the upper quintiles it is obvious that large proportion of children from vulnerable groups are attending anganwadis. However additional efforts have to be made to reach younger children and children from asset-poor households, who are not accessing anganwadi centres, and are at risk of undernutrition.

**Strategy to Improve Nutrition Outcomes in ICDS**

The mismatches in ICDS should be corrected through appropriate modifications in programme implementation:

**Feeding and caring practices:** Although exclusive breast-feeding in the first six months of life is important to avoid infection, water and other supplements are frequently given in early infancy. The Breast-feeding Promotion Network in India (BPN) conducted a study in 49 districts in 2003 that revealed that only 39.7 per cent of infants were exclusively breast-fed during the first six months. Studies also indicate that the quality of complementary foods can be poor, due to local customs and beliefs, and much needs to be done to reduce this source of nutritional deprivation during this crucial growth period. The situation regarding the introduction of semi-solid complementary foods is even worse. According to the NFHS II, only one-third of children in India were offered any semi-solid food between six and nine months and in Uttar Pradesh, Bihar and Madhya Pradesh this figure was approximately 40 per cent. Even in prosperous Punjab and Haryana, more needs to be done to encourage the feeding of children with modified family food. Along with infections, delayed introduction of semi-solid foods is an important factor responsible for increase in undernutrition between six months and one-and-a-half to two years. The AWW should devote much more attention to encouraging exclusive breast-feeding for the first six months and adding semi-solid complementary food three to four times a day in appropriate quantities thereafter.

Another key way to improve child growth is to show women how to use their own resources to feed their children more effectively. This approach has been used in many settings including the Republic of Korea, China and Vietnam. An intervention in Haiti taught mothers to use inexpensive local foods to prepare nutri-
tious food for their children. This was highly successful in helping mothers rehabilitate their malnourished children. The children of mothers who received demonstration-based nutrition education had mortality rates that were 68% per cent lower than the mortality rates experienced by children of mothers who had received growth-monitoring and counselling services but no demonstration-education. In households in which the mother participated in demonstration-education, the younger siblings of undernourished children were also less likely to become undernourished and had significantly lower mortality rates than did the younger siblings of undernourished children whose mothers had not participated in demonstration-education. The impact of maternal knowledge and child-caring practices on growth during infancy has been reported from Bangladesh. The promotion of infant and young child feeding and caring practices is an aspect of ICDS that urgently needs to be strengthened.

It is well known that early detection and prompt treatment of infection improves child nutritional status. Improving environmental hygiene and domestic health management practices can enhance child growth and health. The ICDS programme has components for de-worming, iron supplementation for children and home visits to improve child-care practices, but these components have to be implemented more rigorously given the high prevalence of worm infestations and gastro-enteric infections in India. Some of these interventions clearly lie within the scope of the AWWs’ work, but they need to be given more training and encouragement to implement these interventions and work with communities.

Collaboration between ICDS and the health care system has improved in recent years; one positive outcome of this collaboration has been better immunisation coverage. However, the partnership between the AWW and the Auxiliary Nurse Midwife (ANM) has been less successful with respect to identifying high-risk pregnancies, providing prenatal and postnatal care, and importing health and nutritional education to women. Increased collaboration will ensure integrated health and nutrition services to women and children. Strengthening convergence of ICDS and Reproductive Child Health (RCH) should be a priority for the concerned departments.

Increase impact by reaching youngest children: Because of the type of services provided and the focus on centre-based activities, ICDS tends to reach three to six year olds more easily, to the neglect of pregnant women and children under three. Young children need to be accompanied to the AWC and require more time and attention. AWW is unable to devote adequate time and attention to the children in zero to three year age-group. Due to lack of attention to critical zero-36 month old children, the prevalence of stunting and underweight remain very high.

In this context, conditional cash-transfers have been very successful in increasing the demand for healthcare for young children, educating parents about adequate caring and feeding practices and, ultimately, improving child nutritional and health status quite rapidly in other countries, such as Mexico and Colombia. The possibility of introducing such programmes in India should be explored thoroughly. The supplementary feeding programme is not effectively targeted at children during the early childhood years, i.e. during the optimal window for influencing growth. Instead, it has attracted children aged four to six years, presumably largely because of the preschool activities that are offered concurrently.

Community Participation and Decentralisation

With few exceptions, ICDS remains a highly standardised intervention that follows rules and regulations set centrally. Given the heterogeneity of undernutrition observed in India, state governments should be encouraged to tailor the basic model to local needs and assume responsibility for the management of the overall programme rather than focus almost exclusively on the procurement and distribution of supplementary food, which is the only activity in the programme that they finance directly. A budget line that is specific to the financing of ICDS should be introduced in the state budgets so that the planning and monitoring of invest-
ments in ICDS becomes an explicit activity of state governments.

The programme is also run in a very top-down fashion, with all the logistical and implementation inefficiencies and rigidities that such an approach entails. A programme to provide daily services to young children and pregnant women requires strong participation and supervision by the community. There does appear to be some empirical association between the strength of community support for ICDS, in the form of financial contributions from the panchayat and the performance of AWCs. However, country-wide, only about 25 per cent of states receive support from panchayat leaders, and this support has mainly been in the form of the provision of space for the AWC and the recruitment of beneficiaries.

Despite statements of intent to involve communities in the process, there is little sense of community ownership. This impression is reinforced by the fact that, in most places, the AWW is hired and paid by the government, and is not made accountable to the community in which she works. Also, equipment, food and other supplies are provided directly by the government. Because of her daily presence in the village, the AWW is asked to take on many additional duties to support the field outreach staff of other government agencies (education, health and rural development, in particular), but they are not encouraged to work as closely with community organisations such as the Gram Panchayat or Mahila Mandal. Given the extensive decentralisation that has been underway in India over the past decade, there is considerable scope for involving locally-elected village committees much more actively in implementing the ICDS programme. The experience of the mothers’ committees in Andhra Pradesh could be replicated in other states.

Conclusion

Greater clarity and focus are needed if the ICDS programme is to make a substantial dent on the problem of persistent undernutrition in India. In particular, the mismatches identified earlier need to be resolved so that a nutrition intervention is implemented that

- provides the most effective services to address the most important determinants of malnutrition, and
- reaches the younger children and the most vulnerable segments of the population.

Moreover, leadership and commitment are necessary to address some of the structural inefficiencies of ICDS and many other public programmes in India, including a weak information system, limited orientation towards results and lack of accountability for performance at all levels, which are hindering the success of the programme. Bridging the gap between the policy intentions of ICDS and its actual implementation is probably the single biggest challenge in international nutrition, with large fiscal and institutional implications and a huge potential long-term impact on human development and economic growth.

Excerpts from study circle lecture delivered at NFI. The author is Lead Economist with the World Bank.

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1. Study Circle
2. “Improving Quality of the Mid Day Meal Programme in Delhi Schools” by Dr S. Sharma (Former Reader, Food & Nutrition Department, Lady Irwin College); Dr S. J. Passi (Reader, Food & Nutrition Dept, Institute of Home Economics) and Dr S. Thomas (Reader, Food & Nutrition Dept, Lady Irwin College) on Monday February 27, 2006.