

EDITED BY
S. C. DUTTA

FROM LITERACY TO LIBERATION

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IAEA



INDIAN ADULT EDUCATION ASSOCIATION

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**Zakir Husain Memorial Lectures
from 1970-1985**

Vol. I

Edited by
S. C. Dutta

INDIAN ADULT EDUCATION ASSOCIATION
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PREFACE

India lost one of her brightest sons, Dr. Zakir Husain, on May 3, 1969. To commemorate his distinguished services to the cause of education and enlightenment, and his close and intimate relationship with the Indian Adult Education Association, the Zakir Husain Memorial Lecture was instituted by the Association. It was in the fitness of things that IAEA should do this, for as most of us know, Zakir Saheb had himself taught adult learners, during his stewardship of the Jamia Millia Islamia and was also responsible for the founding of the Association.

We are very happy to publish the Memorial Lectures delivered from 1970 to 1985, under the title *From Literacy to Liberation*, as a tribute to the educational philosophy of our great Leader, who in the twenties and thirties had advocated that there *is* and *should be* a nexus between Education and Development. Therefore, he named the first Department concerned with Adult Education, in Jamia National University as *Idara Talim-o-Taraqqi*.

I am thankful to the Association for asking me to edit this volume, for it gives me an opportunity to repay a part of the huge debt that I owe to Zakir Saheb. As my *Guru* he guided me through a very difficult period in my life and in the life of the nation. In his inimitable style through stories and anecdotes, he was able to make me understand some of the difficult, abstruse and subtle philosophical truths, and instilled in me a determination to remain steadfast to my purposes and goals, a quest for excellence and an active concern for the weak, down-trodden and exploited—ideals which have ever remained the corner-stone of my life. I take this opportunity to pay my humble tribute to Zakir Saheb who made me man out of so to say clay and to whom I and the IAEA owe an un-

repayable debt. He shall always remain a source of inspiration to all of us.

Zakir Saheb was essentially a humanist for he had faith in the future of man and ceaselessly worked for it. He had a high vision of man's potentialities and was sad and impatient when he found that men and women all over the world were mostly caught in fetters of their own making which arrested their growth, instead of trying to realise their full potential through education and a sane ordering of their social, economic and political life. Dr. K.G. Saiyidain has brought out very concisely Zakir Saheb's humanism in the first lecture. He said "his humanism embraced all human beings; nothing that was human was alien to him. Where most people saw discontinuities, his effort was to find continuity. In the midst of dissensions and clashes, not relating to basic principles, he always tried to discover concord."

Zakir Saheb had a deep sense of compassion which brought him into educative contact with the reality of pain and sorrow and the deprivations and injustices from which the large majority of his fellow citizens suffered. To subvert this reality, Zakir Saheb advocated that one should show *concern* for the poor and "*share* the life of the common man and *ease* his burden". It is to this end, that the adult education movement must bend its energy.

Dealing with the question of poor, Prof. Mohammed Mujeeb in the second lecture *How Man is made* said, "one way of eliminating the possibility of the elite dominating the masses is to erase all the distinctive features of the elite, to redistribute wealth so that there are no rich and no poor, and to enforce through pressure of opinion and general practice a purely utilitarian and pragmatic view of culture and character..... The truly democratic way, is to inculcate in the masses those qualities which have in history been associated with the genuine elite — humility, generosity, courage to resist evil, desire to serve their fellow-men in every way possible, love of beauty and refinement". Educational endeavours must

change or seek new methods to inculcate these qualities among the masses.

The strategy needed for this purpose was outlined very clearly by Dr. Malcolm Adiseshiah, in the third lecture *Relevance of Adult Education to Educational Crisis*. He said, Education is humanistic, standing for work, truth, understanding, cooperation, whereas our educational system is inhuman in promoting intellectual laziness, dishonesty, corruption, egoism based on the principle of each man for himself, the devil taking the hind-most". To deal with the crisis, he suggested that we should "work towards a system under which political power will be shared with the rural masses and the socio-economic system move in the direction of their participation in all decision-making processes.....in formulation of plans as well as in execution of projects." To achieve this goal, he suggested that "we, of the lower middle classes must be prepared to shed our current monopoly positions of power and our alliance with and tolerance of the forces of reaction and accept sharing of power with the poor majority, who must be organised to participate in society and share in its power centres, its economic processes and its cultural expressions". His suggestions were: one, to be able to establish this society, the educational instrumentality should be reshaped and renovated; second, education should be used as a continuous learning process open to all. After establishing that out-of-school education is the cure of our ills, Dr. Adiseshiah said "What we need is the will to act and I look to adult education or out-of-school education to build an open, questioning, productive system marked by the continuous struggle for learning, which is acting on the principles of a real and effective democracy".

In his writings and speeches, Zakir Saheb always laid emphasis on the primacy of the spirit — the free spirit soaring high, without fetters and without any limitations. His emphasis was on the creative and liberating role of education. All educational effort must result in the marriage between head, heart and hand. It must result in the liberation of mind and body. Education is learning and learning leads to liberation. It

is because of this relationship that this collection of Memorial Lectures has been entitled *From Literacy to Liberation*. It epitomises Zakir Saheb's educational philosophy and indicates the direction in which the adult education movement in India should move hereafter. Peace, social justice, equality and democracy are the issues on which adult educators need to focus their attention and energy from now on. It is our hope that men and women of this great and ancient land will have "the will to overhaul the educational structure and renovate the socio-economic and administrative apparatus where "a few are prospering on the shame and subjection of the many".

This collection of memorial lectures is being offered to adult educators in the hope and belief that it would provide guidance and inspiration to them to take suitable steps to achieve our national goal of establishing "a free, just and productive society through a direct attack on the forces of inequality and underdevelopment". We shall then move *From Literacy to Liberation*.

Shafiq Memorial
New Delhi
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S. C. Dutta

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DR. ZAKIR HUSAIN
(1897—1969)

DR. ZAKIR HUSAIN'S HUMANISM*

K. G. SAIYIDAIN

I am very glad, indeed, that the Indian Adult Education Association has decided to institute this lecture to honour the memory of Dr. Zakir Husain and I feel greatly honoured by being invited to deliver the first year's lecture. He has made a great contribution to the cause of Adult Education, as he has, indeed, to all facets of education and many facets of our national life. Not only personally, by being one of the imaginative pioneers in this field and laying down lines for the development of the movement but also through the inspiration which he provided for many workers. Perhaps his most valuable gift to adult education was my friend, Shafiq-ur Rehman Qidwai, who laboured in this cause ceaselessly all his life and lighted up many obscure corners with his warmth and light. We honour Dr. Zakir Husain not only for what he was—a great and gracious and noble person—but the inspiration that his life provided for many, who had the good fortune to come into contact with him.

Dr. Zakir Husain was one of my dearest friends and also one of the finest persons I have met in my life, which has been luckily rich in rewarding human contacts. In some respects perhaps *the* finest. This may appear to those who did not know him well enough, or not at all, as exaggerated praise and I do not blame them. But many of those, who were privileged to come into contact with him will recognise that this is not a biased assessment. I came into contact with him first in 1920, when I joined the Aligarh College in the 1st year class and he was an M.A. student there. For about 48 years this relationship of affection and admiration continued unchanged and, during this period, I saw him in all kinds of positions and relationships.

and in every one of them, he stood out supreme. Adversity did not depress him nor prosperity make him proud. The guiding ideal of his life was service ; power completely failed to corrupt him, as it has corrupted most others whom it touched. He was self-respecting, proud in the best sense of the word when he was poor, and modest and unassuming when he held the highest positions in the land. He treated every one he met as deserving of consideration in his or her own right, just because he or she was a human being like him. I do not know of any other great man, except perhaps Gandhiji and possibly Pandit Nehru, who would put a person so completely at ease *not* by trying to do so but merely by being himself. All his thoughts and actions flowed naturally from the quality of his personality and the quality of his head and heart. When Pandit Nehru passed away, I had written an article about him and at the end of the article, I had said "I had known him fairly intimately for over 25 years and I can confidently say that he never did a mean act, never harboured a mean thought, never felt mean emotion. This is very high tribute, indeed but he deserves it in full measure." I can repeat this feeling verbatim about Zakir Sahib. I can say, in a manner of speaking, that I tried him sober and tried him drunk and, if you will forgive me for mixing my metaphors, I found him pure gold under all circumstances. God or Nature, that is usually so niggardly in conferring great gifts on individuals, sometimes, gives with a lavishness which leaves one breathless. An Urdu poet has said :—

'O giver of gifts, if thou wilt confer them on me,

Give them in a measure exceeding my capacity to receive,.

I do not know if Zakir Sahib ever voiced that prayer but it was certainly heard on high.

You may well ask; why I have prefaced my lecture with these remarks, which are primarily directed to Dr. Zakir Husain's personal qualities and personal assessment of him and not to his ideas and interests, to his *lebenanschauung* and *weltanschauung*. My justification is that I want to speak about his

humanism and I have a suspicion that a person, who is not himself a humanist in the deepest and highest sense of the word, cannot be a messenger or value-bearer of humanism. A person cannot become a humanist merely by discussing the philosophy or the social and individual implications of humanism, by writing books and papers about it. He must mirror its basic qualities in his every day life and I hope to show, as best as I can, that Zakir Sahib was a humanist both in his person and his ideas and ideals. And it is this magnificent meeting of theory and practice in his life which provides the justification of the theme that I have chosen.

Let me first make one important point clear. Humanism is a word which is used by writers on philosophy in a variety of senses. One of them postulates that man makes up the entire framework of human thought, that there is no God, no super-human Reality to which he can be related or can relate himself. It is obviously not in *this* sense that I am using the term here. In a book that I wrote some years ago, entitled 'The Humanist Tradition in Modern Indian Educational Thought'—and on which I have drawn in dealing with the educational aspect of Dr. Zakir Husain's thought—I made a study of the educational ideas of six great Indians: Tagore, Iqbal, Gandhi, Azad, Radhakrishnan and Zakir Husain. And *all* of them without any exception believed in God, in a supra-rational order of reality. Their faith is humanistic in the sense that they attach the highest value to man and all that pertains to him—his values, his ideals, his intellect, his intelligence, his creativity, and the building up of an environment which would provide the freest scope for his self-expression and ensure his social and ethical welfare. They would all agree, with its definition as offered by Bronowski and Mazlish in their book 'The Western Intellectual Tradition' that 'humanism is a wish to find the source and criterion of what is good, just and beautiful in the human gift'. But they would not eliminate God as irrelevant to the process, for they found the source of grace and inspiration in their concept of Godhead. Zakir Sahib was a 'God-fearing' man in the classic sense of the phrase, even though it has now become an unfashionable term. He did not see any basic anti-

thesis between exalting the role of man and recognising the overlordship of God as he envisaged Him. While the great religions of the world in their purity have basically preached humanism, on the widest basis, in actual practice it has usually been a kind of class humanism, in which the practice of humanistic qualities was confined only to members of a particular group, while the rest were considered to be beyond the pale. The humanism for which Zakir Sahib stood, together with his fellow thinkers, is a *new* humanism which embraces the whole of mankind. In defining man and matters that are of worthful concern to him—he does not view him in any exclusive historic or geographical or racial or religious terms or categories. All men—men of all countries, climates, colours, persuasions—are bound together by ties which are indissoluble, scientific and technological, social and psychological, cultural and spiritual. Even when he discussed problems, which were of special importance to Indians and related to their milieu, he could never forget their relationship to other peoples, or advocate any policies or programmes which would possibly run counter to their legitimate interests and welfare. You can read all his writings and speeches and you will never find any word or suggestions in them that can be regarded as being in any way detrimental to the interests of world or of mankind. Persons, who are catapulted into power and authority often become aggressive or narrow-minded in their patriotism, unable to strike a proper balance between the interests of one's country and the wider interests of mankind. Not so Zakir Husain. In conformity with the best and highest tradition of his country, his people and his faith, he never showed the slightest narrowness or parochialism in his loyalties.

While he stressed the importance of cultural goods developed in one's own milieu, he never forgot or ignored the importance of the broader human heritage to which every man, woman and child is heir. The former may come first in the order of *time*, because they are more closely related to, and more easily understood by, the child. But in *this* age, at any rate, they cannot possibly provide adequate mental fare for him. At a time, when narrow regionalism, parochialism and territorial loyalties

were raising their ugly head all over the country—and they are still doing so unashamedly—this is what he had to say to the graduates of the Cuttack University in his Convocation Address: “Your inheritance is not confined to Orissa or even to India. You are inheritors of all that mankind, in its sojourn, on this planet has thought out, sung, made and achieved; for, as the builders of tomorrow, all man’s long yesterdays belong to you, all the good ones and bad ones, all its good things, all its personal and impersonal culture. In this rich inheritance, to which it should be the main function of the University to introduce you, you will see the concretization of values that transcend your subjective whim or interest, values, which, when experienced, grip one with a firm grasp, values which demand commitment. Do not put your little self against this demand. . . . The University (he elucidated elsewhere) should appropriate as its heritage all the best that man have thought and done and aspired to, irrespective of the where and when, be aware of the distinction between the heritage that helps and the heritage that hampers, by combining the strength to preserve, that revitalise, with the courage to refuse and reject.” The criterion, therefore, is not *age* but *relevance*—not whether it is old or new but whether it helps or hinders the gracious promise of life. He reverts to this significant idea again in one of his addresses: “To seek to exclude any part of our inheritance because of age or association with some particular element of our national being would be almost an act of treason. In the rich treasure of our history there is nothing good or bad because it is Hindu, Muslim, Christian, Sikh or Parsi. Select we must, and the valid differentiation is between the genuine and the spurious.”

This was a clear and categorical denial of the anti-humanist elements in India who objected to, and sought to eliminate from our cultural heritage, elements drawn from either Hindu, Muslim or any other particular source. He also insisted that we should refrain from educating young men and women who (to use his words) are, ‘blind to the beauty of their own art, deaf to the harmonies of their own music, ashamed almost of their cultural heritage or, what is almost the same, ignorantly and

arrogantly parading it, incapable of using their tongue with any degree of competence or effectiveness, woefully unaware of their own literature, indifferent to the social scene around them and out of touch with the aspirations of their own people.'

He realised that humanism essentially called for an approach of understanding, of reconciliation not only in the relationship amongst human beings but also between ideas, values and patterns of life and culture. It was its business—and his business—to bring together rather than divide, to see the unity under the diversity, the common factors below the apparent dualisms. In a country like India, which is so deeply weighted with the burden and traditions of the past and so imperatively spurred by the urgencies of the present and the pulls of the future, it was extremely important to maintain a balance between tradition and experiment, between the national heritage and the human heritage, between the claims of reason and the light of intuition, between science and technology and religion and vision, between activity and contemplation, between power and compassion, between the world of matter and the world of spirit. Each one of these has a truth of its own which we cannot afford to ignore. But he knew that, if we exaggerate or become exclusive in our *welt-anschauung*, truth will slip out of our grasp and leave life lopsided and consequently poorer, bereft of its actual and potential splendour. For, life is essentially complex and variegated and cannot be fully tasted and enjoyed or reveal its full meaning, unless it is approached from many directions. And as we shall see, it was this kind of a full life which he lived and savoured and preached, through his writings and speeches and even more by his personal example.

Dr. Husain had a high vision of the potentialities of man. He did not envisage him as a passive creature of circumstances or the result of a lucky accident in the long process of blind evolution. Man was for him a potential vehicle of values, a creative individual, a being not made merely of matter but one who eventually succeeded in bringing matter and spirit together and who possessed infinite inner riches, still waiting to

be developed. This is what made him not only sad but impatient when he found that men and women, not only in his own country but all over the world, were mostly caught in fetters of their own making, which arrested their growth, instead of trying to realise their full potential through education and a sane ordering of their social, economic, and political life. This vision must have come to him from the deepest sources of his own being — his faith, his intuition, and the personal experience of the stirrings of the spirit in him. But this could not by itself have made him the person he was. It could have made him just a mystic or a religious devotee. But he was far too richly endowed to be content with such a limited roles. He was an economist by academic training, an educationist by choice and profession, a litterateur with a fine sense of aesthetic discrimination, a linguist at home in many languages and a writer and orator of unusual quality by the grace of God. In addition to all these qualities, he had a deep sense of compassion which brought him into educative contact with the reality of pain and sorrow and the deprivations and injustices from which the large majority of his fellow citizens suffered. His response to this situation was the only response that a socially sensitive person could make. He must do all that was possible, in whatever position he was placed, to share the life of the common man and to ease his burdens.

When he came under the spell of Gandhiji in 1920 and decided to throw his lot with the national movement, which he once modestly described as the only fateful decision that he took in his life, everything else following logically from it—it was open to him to choose the exciting and exciting field of politics. It had for many young men, an irresistible appeal because it called from them—as alas, it does not today—sacrifices, both spectacular and unseen. But Zakir Husain was made of different mettle. He knew that the political movement was of great importance but he was also aware that a genuine and broad based national renaissance could not be ushered in, much less completed through the narrow gate of politics. On the occasion of the Silver Jubilee of the Jamia Millia in 1945 he made a brilliant and moving speech in Urdu in which he had stated how the approach of the educator was different from that of the politi-

cian. Politics is subject to quick changes like the ebb and flow of a mountain stream while, "education is like a slow moving river in a plain, which must flow throughout the year. Politics is concerned with the strengthening of the national fibre and is naturally impatient. Education implies love for eternal values and demands infinite patience. Education creates values and keeps them fresh, while politics seeks to organise and defend them. Education is thus the master and politics is its servant. The one needs the maturing process of time, the other intensity of action." To be really meaningful politics must, therefore, have its moorings in and draw its inspiration from, a new approach in education, and a new pattern of national character.

The great work that he did in the field of education is epitomized not so much in his leadership of the Basic Education movement as in the primary and secondary schools which he established and maintained as pioneering educational experiments for many years, where many of the ideas and practices, which were later advocated by him and other for basic education, were actually tried out successfully. The formulation of a scheme or a programme on paper is easy; its successful implementation in the field is a much more difficult thing. Dr. Zakir Husain had the great advantage of coming to his theory and philosophy of education after wrestling with the practical problems of the school room and studying the psychology of children and youth in action. This insightful practice made it easy for him to play the role of educational leadership. Direct first hand experience for over two decades had strengthen his faith in the principles that he advocated.

In his scheme of Basic Education, Gandhiji had only formulated the broad approach which should be adopted in order to link education closely with life and productive work. It was the Zakir Husain Committee which was responsible, under his leadership, to translate the principle into acceptable educational terms. He had also made an insightful study of the new movements that were stirring in western countries when he was a student in Germany, not because it was part of his professional responsibility, he had not till then decided to go in for school education, so far as I know—but because it was a

matter of deep personal interest and involvement. Is that not after all, the only way in which one can best acquire mastery over any discipline or art or craft? He certainly borrowed ideas from distinguished educationists and educators like Tagore, Kerschensteiner, Spranger, Dewey Nunn, Kilpatrick, but he did not borrow them mechanically. He borrowed them *creatively*—that is, ideas, techniques, suggestions, values entered into his mind from all sides but, when they emerged, they had a distinct individuality of their own, which derived their colour and texture as well as their liveliness and relevance from his all round personality. Thus his institution was one of the first to try the Project method, to develop a community approach in living and learning, to encourage purposeful work and productive work, to promote self-governing institutions amongst the students in order to train them for responsible citizenship, to arouse a real interest in, and appreciation for art which had not till then found any place in the ordinary schools—and it has yet to find its really deserved place—and above all, to inculcate in the students and the teachers, a spirit of social, civic, and national service. He did not ‘preach’ to the students; he set arresting challenging unorthodox examples. It may perhaps be worthwhile to quote a couple of such examples which I know either personally or they have come to me from his close co-workers.

In the early years of the Jamia, he was the Vice-Chancellor and his own Personal Assistant and almost his peon. He was also the head of the school and used to take keen personal interest in the students and pay close attention to their training. He was very punctilious about cleanliness and wanted all the children from the hostel to come to school with clean clothes and polished shoes. Many of them gradually fell into this habit but a few would not carry out his instructions—not that any one defied him but they were just careless. So one fine morning, the students found the future President of India sitting at the entrance to the school with a shoe shine kit and in spite of their shame-faced protests, insisted on polishing the shoes of every student who had not done so himself. Another day he passed by a class room, where students had not cleaned

the glass panes for several days, inspite of his having asked them many times to do so. He walked into the room and with a small stick, that he had in hand, deliberately broke all the panes, saying "Students who cannot keep their panes clean, have no business to have any"! This was at a time when even the replacement of a few window panes was a burden on Jamia's finances. But the lessons that he thus taught in his delightfully original way probably never faded from the students' mind. On yet another occasion, students, then few in number, were having their food in the dinning hall and they found that the meat was tough. So, as a protest, they shouted and piled all the tough pieces of meat on a large plate in the centre of the table. Zakir Sahib just happened to walk in, sensed the situation, sat down on a chair, picked up the plate and quietly started eating out of it, as if it was the most natural thing in the world. He may have issued the necessary instructions to the kitchen afterwards but his immediate reaction was : "I must show these children of mine that there is such a thing as good manners" and obviously the most effective way of doing it is to set an example. In these days, when indiscipline of the worst kind is often considered to be the birth right of students and almost synonymous with freedom and self-expression, and restraint, good manners, reverence and patience are at a terrific discount, this may be regarded as a very old fashioned technique or even an out-dated point of view. But I must frankly confess that I am old fashioned enough to prefer good manners over bad manners, reverence over irreverence, restraint over license. So did Dr. Zakir Husain.

I have mentioned his desire to bring art into the life of children and to awaken their artistic impulses. When he returned from Germany after taking his doctorate, he had brought with him a number of very fine reprints of paintings by famous artists of different schools. He had these paintings hung in the class-rooms and tried to make the children recognise them and note the characteristic features of various celebrated artist. Even quite young children were able, after they had seen these pictures for several days, to recognise others done by the same artists.

On the one hand, he was deeply concerned with the education of every individual child—the personalization of approach that makes education vivid and meaningful—and on the other with making it relevant to the issues that were pulsating in the life of the nation. While the foreign Government was in occupation of India, he worked for about two decades to train generations of students who will *not* take political or economic or cultural slavery lying down, who will *not* be impatient to sell their heritage for a mess of pottage, who will assess life and success in life in terms other than financial. Many years later, while delivering the Convocation address at the Utkal University, he defined his vision of life thus: “It should move between the two poles of the eternal and the temporal, between an awakened conscience and skilled efficiency, between conviction and achievement”. He visualised it as labouring simultaneously for the creative development of the child’s individuality in an atmosphere of understanding, freedom and love, and for building up a just, peaceful and cooperative social order. The vision of this social order had haunted his dreams and imagination from the very beginning of his work. In his Educational Addresses in Urdu, in the thirties, he had elucidated his ideal picture in these words :

‘It is a picture in which truth reigns, in which even handed justice is meted out to every one, where there are no differences between the rich and the poor but each has the opportunity to develop his powers fully, where all are willing to trust and cooperate with one another, where religion is not a means for enforcing wrong concepts or made a cloak for achieving selfish ends but is regarded as an agency for improving life, for making it more meaningful.’

After the thirties had merged into the forties and the forties into the fifties he had opportunities of expressing his views on the issues facing the country from many important platforms not merely political, but academic and educational. His Convocation Addresses, given at different Universities and published under the appropriate title “The Dynamic University” give an insight in the working of his mind, his values, his hopes and

aspirations for his country, as well as for the Indian Universities and indirectly for the Universities of the world. As you study them, you find that his basic stand about the kind of individual and collective life which he envisaged for his country, has not changed. But, while in the thirties, it was in a way just an expression of his faith and his hopes, now it had acquired a realistic substructure from which we could go forward—go forward, if we were really earnest. On the attainment of independence, India set to itself the task of building up a democratic, secular and socialistic pattern of society “in which different groups, communities, religions can flourish side by side in confidence and friendship in which the rich may not be able to coerce the poor or the strong to suppress the weak, in which different social and cultural traditions may grow in freedom till the harvest and, in which all citizens may be able to make the best of their powers for personal fulfilment and social service”.

To such a phrasing of our national objective, *almost* all the political parties will be ready to pay lip services and no group or community will join issue with it. But there is a wide cleavage between theory and practice between platform rhetoric and the every day conduct of most individuals and groups. The difference between Dr. Zakir Husain—and a rather small number of the outstanding men and women of the generation that has now practically passed away—and many of the people in high positions today is that their platform rhetoric does not impinge dynamically on their political or personal behaviour. This is not to adopt a “holier—than thou” attitude—and I should be prepared to criticize myself as ruthlessly, if need be—but to underline what Zakir Sahib was saying and doing all his life. An attempt to re-order or restructure society merely as an organization, without doing something to improve, to educate, to give a new look and a new spirit to the individual is sure to be a failure. He did recognize that the education of the individual in a society, which was wicked and diseased was also infructuous. But he wished to stress the individual in particular, because the new movements and forces, developing in the modern age, tended to be little

his importance and increasingly visualized the cultivation of the "organisation man" as a desirable objective. That is why, incidentally, there is much to be said in favour of the protest movements that have emerged in many countries against some of the dominant trends of modern civilization. Dr. Zakir Husain regarded some of these trends as essentially irreconcilable with the whole spirit of humanism which wants to place man in the centre of the picture. If the hands and heart are not clean and "some Mahatma's magic (as he put it) could provide for you gratis all the finest social and political institutions, it will be a useless gift, for all of them will be reduced in no time to the level of your own personal qualities". I may add that he did not wish to place the economic man, the political man or any fragmentary concept of man in this position. He stood for man in his wholeness, his integralness, in the totality of his being. He did not regard the physical needs or the economic betterment of man as the supreme object of human effort and ambition. In his writings and speeches, he always pointed out 'the dangerous tendency to neglect the things of the spirit in the emphasis on material welfare'.

Even more, he deprecated the teacher who was content to impart certain skills and information to his students and was unconcerned about the use they made of them or their impact on their heart and mind and their sense of values. As he once put it epigrammatically, what is the good of a teacher who teaches the student to write and then is unconcerned whether they eventually "write an immortal sonnet or produce a forged document". It is his business to see that his pupil is helped "to become honest and truthful, socially cooperative and helpful, to see beauty in art and nature, to persuade himself to subordinate his selfish ends to the good of the whole of which he is a part. Education should seek to reshape the totality of his being."

This is only possible if we can transform our schools into communities of life and work where students will learn to labour in stimulating comradeship, "in the discovery of truth, natural and historical, in the appreciation and creation of

beauty, in upholding standards of a clean life, in helping the helpless, in courageously speaking out one's mind...in the readiness to work and stand back, if necessary, for the good of the school community to play for the team". It also implies a 'passion for excellence', a readiness to eschew the second rate and the third rate in life, so far as possible. When they fall from this high standard, they become an easy prey to demoralization—"just out to make the best bargain with life, and a good bargain is one where you give as little as possible to get as much as possible in return! We then believe that there is no one to pass judgment on us, no God, no conscience, no teacher, no public opinion. We cannot hope to get any satisfaction (out of our work) because only God and our conscience can satisfy and these we turn our backs on at the very start. We cannot acquire any dignity, because no one on earth has ever acquired it unless he has aimed at excellence and achieved it in some measure".

To Dr. Zakir Husain, survival was not the highest moral value, for "there are terms and conditions on which survival is a sin and there are values for the defence of which life itself is too small a sacrifice." In other words, the deeper alternatives between which man is called upon to choose are not "pleasure and pain but the noble and the ignoble, the worthy and the unworthy, service and aggrandisement". As our great Urdu poet Iqbal put it with crisp brevity :—

بہتر از ادیشہ سود و زیاں ہے زندگی
 ہے کہہی جاں اور کہہی تسلیم جاں ہے زندگی

"Life transcends all calculations of profit and loss; it is sometimes living, sometimes the surrender of life."

Pleasure and pain are woven in varying measure, into the texture of every man's life and, if all that he is concerned about is avoidance of pain and the direct hedonistic pursuit of pleasure, he will find himself caught in arid deserts of effort. Education should help the students to realise the world of difference between these two views of life.

He was particularly anxious that the Universities should become dynamic centres for the propagation of life, imparting life-advancing values. This they could only do when they were

envisaged as communities of scholars and students, treated as responsible members of a *free* academic society, "free to think, free to express their thoughts, free to refuse to conform, free to be unorthodox, free even to err...It is only in such freedom that one develops that invaluable quality, moral courage to speak out freely, frankly and fearlessly when the moral good of society is involved.....Universities are houses of ideas; enquiry and challenge are their function; to question established patterns is almost their business in a progressive society". This was a very courageous statement, embodying the inherent freedom of the University, and I can well imagine many persons in high positions, both in India and in other countries, questioning the wisdom of such freedom and feeling uncomfortable about it. They have to be reminded that, while freedom has its risks, those associated with the denial of freedom are much greater and more damaging to the welfare and progress of society in significant directions. He was naturally and rightly worried that "in the stampede for newer and newer sources of power, the University has forgotten to consider the aim to which power was to be harnessed; in the race for facts, it has neglected *values*; where it should *understand*, it has contented itself with describing; where it could *guide* it has only sought to report; in the preoccupation with the technical, it has forsaken the *ethical*; in the anxiety to discover and predict, it has ceased to *discuss* and *educate*". Behind these words, which spell out Dr. Zakir Husain's concept of humanism lies a plea for our Universities providing a humane and liberal education which would not indeed, ignore either power or technology or research but will be devoted above all, to educating men and women with better hearts and minds and a better sense of values. Its emphasis will be, to reiterate the points in his own words, on *understanding*, on *guidance*, on *ethical sensitivity*, 'on *discussion and evaluation of issues* which really matter.

I made a few remarks about the personal qualities of Dr. Zakir Husain at the outset of this Lecture. Now, that I have tried to present some of his ideas and values, I would like to revert briefly to a discussion of his personality as a vehicle of these values. I have referred to the fact that, in his case, there

was as near-perfect correspondence, as is possible, between word and deed, between the values he preached and the values he practised. His humanism, of course, embraced all human beings; nothing that was human was alien to him. Where most people saw discontinuities, his effort was to find continuity. In the midst of dissensions and clashes, not relating to basic principles, he always tried to discover concord. But he was not the kind of goody-goody person who would compromise on matters of principle and sweep fundamental differences under the carpet. He was the soul of courtesy and polite to a fault. But when it was an occasion for speaking out the truth bluntly, he would not hesitate. For instance, when he was a young member of the Aligarh University Court, the then acting Vice-Chancellor—who was not an educationist but a local big wig, with whom most members were not prepared to join issue remarked sarcastically, 'I have not been able to understand the point that Dr. Zakir Husain has made'. Quick as lighting came the reply, "I am only concerned with making my point lucidly. I have never claimed that every one will be able to follow it". The Vice-Chancellor was rattled a little. When, later in the meeting, Zakir Sahib raised a point of order, he testily remarked, "If you think you understand law and procedure better than I, you had better come and occupy this Chair and conduct the meeting". His reply was—and, mind you, he was still a young and 'junior' member—"you can not under the rules invite me to occupy the Chair. But, if the community and the University Court invites me to do so, I shall certainly show how such meetings should be conducted". And many years later, he made good his claim triumphantly.

Another instance : A teacher of the University came to him when he was Vice-Chancellor and back-bited against his own chairman. He listened patiently and then said "May be some of the things you have said are true but you are a liar". When the teacher appeared surprised and hurt at the remark he elucidated it by saying, "So long as you expected the chairman to support your claims for promotion, you always spoke of him in high terms. Now, that you are disappointed you have suddenly decided to make all these allegations." Again he

was, in many ways, the leader of the basic education movement and he had given many years of his life to its service. But when he found that the Education Departments have at best honoured the letter but ignored the spirit, he had no hesitation in saying publicly that basic education as practised was a farce. You could not fool his judgment; he was too shrewd a judge of men and matters for that. He was prepared to forgive them, to overlook their faults on occasion. He had a tremendous capacity for what we in Urdu called *Murawwat*, which can be rather inadequately translated as 'consideration' and he practiced it almost to a fault. But he did not allow his intellectual clarity to become confused by his emotional softness and human warmth. Also he had one of the high qualities of a true *momin* (man of faith) as defined in Muslim thought. He was exacting with himself, sitting in relentless judgment on his own actions but, generally speaking, indulgent in judging others, thus completely reversing the pattern of judgment normally applied by most human beings. Iqbal had summed up this quality of the *momin* in one of his verses :—

مردن مومنین رندے و با خون بچنگ
می فتدیر خون چو بر آهو پلنگ

“So long as the *Momin* is alive, he is at war with himself. He pounces on his weaknesses swiftly, as the leopard on the deer.”

His humanism also found expression in the large variety of his cultural interests—they had an amazing range. If a person has a poor or hollow inner life, if the chords of his being are not touched by the vivid manifestations of art, nature and culture around him, he cannot have much to give to persons with whom he comes into contact. Zakir Sahib had a deep and lively interest in Urdu, Persian and also to some extent English and German poetry. A mutual friend, Col. B.H. Zaidi, told me that he once prevailed upon him to take a holiday, which he rarely did, and they spent more than two months in travelling about in South India. The only books he had with him at the time was the works of some great classic Persian

poets! His intellectual and artistic interest included such diverse subjects as economic, literature, mysticism, painting, calligraphy, music, flowers, stones. He competed with his own gardeners in Rashtrapati Bhavan in the grafting of roses and they told me, after his death, that he beat them at their own game. Some varieties of roses have been named after him, because he knew them, loved them and cultivated them wherever he happened to be—in the Jamia, in Aligarh, in Patna, in Delhi. He has left behind a marvellous collection of semi-precious and other stones, some of which have been assessed to be millions of years old. Not just a show collection for people to admire but a collection in which he recognized most of the stones individually, and one often had the privilege of being taken on a tour of the makeshift museum by the President himself.

And to cap this all, he had an exquisite sense of humour which made his company a source of real delight. A humour which was never offensive or vindictive, never sought to assert superiority over others, which depended on wit rather than satire, of which he made his own self a butt quite frequently. Once when I had gone to Rashtrapati Bhavan to have breakfast with him he suddenly remarked 'You know many years ago I went to see Gandhiji and found that he was closeted with a dacoit'. For once I was taken in and replied, 'I can quite believe it, for he did come into contact with all kind of persons'. He smiled charmingly and said, 'I have a photograph of the occasion' and pointed to a picture on the wall where he was sitting with Gandhiji and did have a beard which rather reminded one of the kind of bushy beards that some dacoits used to have...He was not only modest but almost aggressively so and, when you talked to him, he would try to give the impression that he was no great scholar, did not know much. Often he would only let the edge of the glacier be seen, while carefully concealing the glacier itself under the surface of the water. This again was an unusual quality which shows that he had a kind of inner poise and confidence which did not draw upon other people's admiration or praise for sustenance.

In all his life, so far as I am aware he never lost hope or courage, for he was by nature and by faith an optimist. But I do know that, towards the end of his life, he was deeply concerned and saddened by the development of many undesirable and unlovely trends in national life—trends which have become more aggressive and active since his death. As if some kind of grace some *barkat*, which had kept them in check, had been removed and they could now have a field day. But Zakir Sahib would have quoted to his friends, and to his contemporaries generally the words of one of his favourite Persian poets Hafiz :

حافظ وظیفہ تو دعا کردن است و بس
در بدد این مباحث که نشنید یا شنید

“O Hafiz, your duty is only to pray.

Be not concerned whether the prayer has been answered.”,

And, lest one may imagine that by دعا or prayer, he merely meant an invocation to God, asking Him to take on the responsibility which really belongs to man, he would have added.

نوا را تلخ تری زن چو دوق نغمه کم یابی -
حدی را تیز تر می خورم چو محمل را گران بپلی

“Strike the chord harder if there is little taste for music,
Sing the *hudi** louder, if the *mahmil* is heavy (and drags.)

*Camel driver's song.

HOW MAN IS MADE

M. MUJEEB

I am most grateful to the Indian Adult Education Association for the great honour bestowed on me in asking me to deliver the Zakir Husain Memorial Lecture for this year. I have, out of regard for Dr. Zakir Husain's main interest in life and for the aims and ideals of this Association selected a topic equally relevant to both, and of the utmost significance at a time when, taking shelter behind the idea that we are living in a period of transition, we are allowing regard for values to be suppressed within ourselves and in the world around us. We have, no doubt, an ever increasing awareness of political and social problems, we have developed the science of applied psychology, we have analysed all that conditions the human mind. But I believe you will agree that we have not, in spite of all our knowledge, produced an intrinsically better type of man. Is there something we overlook in the means we use or some shortcoming in the ideals we seek to achieve ?

We are today impatient of moralizing of any kind. It betrays ignorance of the facts of life, we think, and appears too often to be a cloak for hypocrisy, that ravenous weed which robs virtue of its natural sustenance. We must stick to facts. Let us see where we can get to by sticking to facts alone.

Man is an animal ; the highest type of animal, but still an animal, and governed by all the instincts of the animal. "We moulded man into the noblest image and then reduced him again to the lowest of the low ; all but those who believe and do good works ; for them shall be a boundless recompense." The Quran here states with awesome brevity the tensions within human nature : the immanent possibility of man sinking to

lower than the animal level and the prospect of his rising to the greatest heights imaginable. Muslim religious philosophy has accepted this as an axiom. Shah Waliullah has divided mankind into those who are content to remain like dumb cattle, those who are able and willing to be guided and those who are endowed with grace. This view is not peculiar to Islam. I refer to it because Dr. Zakir Husain, in several of his speeches to students at Aligarh reminded them of the option of being beasts or becoming men, and because the fundamental problem of education is how to ensure that man does not relapse into an animal, but rises and stimulates other to rise to a higher than the existing level.

Every child, even the child of a savage, inherits something by way of material goods, some aptitude for the acquisition of skills, some sense of right and wrong, some urge to a better life. The history of civilization tells us how material goods have accumulated, in response to the diversity of needs, how skills have developed and become heritable through continuous exercise, how primitive ideas of right and wrong were gradually refined into the idea of a moral life, how this idea created beliefs and institutions and how these again evolved through beliefs and institutions acting upon each other, till the present stage was reached, when man is able to judge himself and his institutions objectively, and feels the compulsion to follow his better judgment. But wars and massacres have been warnings enough that the whole human heritage is liable to destruction. How can such a catastrophe be averted? There could be several answers to this question, all of which would ensure human survival if only there were some way of making their acceptance obligatory. There does not seem to be such a way, but we cannot give up the task of trying to find one. International affairs are not my concern here; I am an Indian talking to Indians. But what applies to one nation or one society could also have a general application.

The origins of the destructive urge are to be found in the nature of men and in the organization of societies. This urge can be kept under control in individuals, perhaps, through a system of education which will ensure that they remain at

peace within themselves ; and in societies, again perhaps, through the establishment of a harmonious, free and mutually beneficial relationship between the masses and the elite. Let us briefly consider both possibilities.

There is a philosophy and a method of education that would lead to the healthy development of all faculties and enable the individual to attain personal fulfilment as well as identification with his society. Culture, it is held, is the product of the creative activity of different types of mind. There is, for instance, the religious type, the social type, the intellectual, speculative type, the aesthetic type, the scientific, the technical, the economic type, and so on. Education misses its aim if it ignores these types and their particular requirements, and fills minds with information which is just a burden to them, like the fond mother who forces her children to eat what she thinks is good for them without regard for their wishes. All religions have suffered because persons who were by nature capable of appreciating only material, economic or political values acquired or were given religious status. Much student discontent would disappear if only we could see to it that education was in accord with aptitude. But this theory of education cannot be applied on any significant scale, because the requirement of means, men and controlling authority cannot be adequately fulfilled anywhere. Even the Soviet Union has come round to teaching all subjects to all students up to a certain stage. Vocational education, that is, education according to aptitude follows and does not precede general education. And when this stage of vocational education is reached, a selection will have to be made on the basis of merit, which leaves the majority out in the cold, because there is no room for them inside.

Education based on aptitude, unless the means for education and employment are unlimited, will only provide society with a really competent elite in every sphere of activity. But what about the rest of the vast majority whom education has filled with aspirations, or whose aptitudes have taken longer to develop, or who are convinced although they have not passed the tests so well as the select, that taken as a whole they are

quite as good as if not better than the elite? If social contentment is the aim, education in accordance with aptitude will only give social distinctions a rationale basis, but only the positively rational will recognize the validity of these distinctions. The problem of the fortunate few and the not so fortunate many will remain.

It will remain inevitably. No matter what system of government is adopted, there will be minority of some kind ruling over or effectively controlling a majority. This minority may, as in India today, be elected by universal suffrage, and there may be considerable decentralization of authority. This will make the ruling minority larger in number, more subject to change of its personnel, less able to exercise direct authority, but it will, nevertheless, remain a minority, and its character will affect the character of the whole political body. It is, therefore, essential in the interest of the whole, to determine on what grounds this minority should be given the right to exercise authority and all that influence which goes with it.

History tells us that there was first the corn-king, then the priest-king, or priest and king, whose power was the power of the gods and spirits, of magic. Then there was the politically distinguishable but still divinely appointed king. The Greeks gave a purely political character to all government, and classified it under various types—monarchy or tyranny, aristocracy, oligarchy, democracy. Monarchy at its best was government by the one divinely appointed and therefore the best man, aristocracy was government by the best men, land-owners who were qualified for their position by nature and upbringing, and not merely their wealth. Oligarchy, also called, plutocracy, or government by the rich in the interests of the rich, and democracy, or government by the people in what is considered the interest of the people, are types of government which we now have. The only addition made to the historic types of government is totalitarianism, and students of political theory would know that there is a considerable element of totalitarianism in Plato's political thought. So far as the basic facts of life are concerned, it can be said that humanity is almost where it was in the

time of Plato and Aristotle. The problem of the elite and the mass has not become any easier to solve because it is now a larger and infinitely more complex problem, and the fate of every society still depends on the nature of the elite and the quality and degree of recognition accorded to it by the mass of the people.

I believe one way out of this stalemate is to understand history and accept it completely and sincerely. Man was not made in the nineteenth and twentieth centuries by revolutions or by democracy. We have to consider the whole process of man's development, to see how his system of living and his ideas were thrown like potter's clay till he attained his present form, in short, to see how he has been made.

Every form of government has had a moral aspect in that it has emphasised the value of certain principles. Loyalty originated with kingship. Kings were men, like their subjects, and with the growth of moral and political consciousness, this became more and more obvious. But since obedience had at the same time become a habit, the king could be opposed only in the name of some principle higher than the king, higher than habitual obedience, such as loyalty to God, or to a superior ideal of welfare and justice. Those who opposed kings took great risks. Their primary concern, it can be conceded, was to defend their own interests but, taking the instances of opposition to monarchy as a whole, and in particular in feudal Europe, the most common factor would be that the king must act with the consent of his supporters, the large landowners or the nobility or the aristocracy, whatever we choose to call them. To obtain consent, confrontation and discussion was necessary, discussion in which every participant had to be given reasonable opportunity to express his opinion. Democracy had to wait till the rise of the middle class, but when it did appear, it had to base itself on what had been recognised as moral principles governing human affairs—loyalty to the whole, the body politic or state or people, acceptance of consent as a pre-condition for taking any action,

accordance to everyone of the right to express his opinion and a general agreement that the opinion of the majority should prevail.

Relevant to our discussion also is the fact that all the peoples who have contributed to the evolution of political ideas and systems have believed in their being the chosen people. This belief has played a significant part in establishing ideals of personal and social virtue, and in setting standards of excellence. Just as monarchy still survives in the need for a leader who can command loyalty, and aristocracy in the regard shown to political and social status, the idea of the chosen people survives in nations who consider themselves superior to others, and within these nations among those who consider themselves superior to the rest of their people because of their wealth, influence, culture and standards of living. There have been situations that were not accidental, but the logical result of previous developments, in which the elite within a people abdicated, for moral reasons, their claim to superiority. We see it most clearly in the popularity of the Stoic philosophy when the Roman empire and Greek civilization were on the decline. The rise of the monastic orders in the Christian and Sufi orders in the Muslim world and of Bhakti in India will, on close examination, appear to be abdications of the same kind. They were proclamations of the equality of all men which, in the political sphere, gradually emerged as the distinctive feature of democracy but in democracy as we see it today there is to be found everywhere the distinction, not legally recognized but very evident all the same, between the elite and the masses. Universal suffrage does not really affect the position of the elite. Nor would free compulsory school education make much difference, apart from providing a larger reservoir from which the elite would be drawn.

One way of eliminating the possibility of the elite dominating the masses is to erase all the distinctive features of the elite, to redistribute wealth so that there are no rich and no poor, to organize education so that any special opportunity

for the gifted to develop their aptitudes can be decried as unjust and undemocratic, to enforce through pressure of opinion and general practice a purely utilitarian and pragmatic view of culture and character. This would not be attempted in a totalitarian state, which must have an elite to uphold its objectives in all spheres of life. But it could happen in a democracy even without any deliberate effort. You have just to examine the position in India today to see what I mean.

The other way, the truly democratic way, is to inculcate in the masses those qualities which have, in history, been associated with the genuine elite, not those parasitical individuals and social groups who grabbed all they could for themselves because they had the power, but those who, having power, set for themselves rules of conduct that entitled them morally to whatever power they possessed—humility, generosity, courage to resist evil, desire to serve their fellow-men in every way possible, love of beauty and refinement. If this is our aim, we shall have to think of the virtues to be inculcated first and of the elite to be created afterwards. I know that in the educational programme of every good school and college there is emphasis on certain virtues to be acquired; these institutions, however, are for the elite, and their purpose is to inspire the offspring of the elite to live up to its best standards. But since we have the mass in mind, our method must be different.

We must emphasize, I think, the distinction between the animal and the human being, the need to make a deliberate choice to achieve and identify oneself with the human and rejecting what is animal, and to depict both in such a way that there is little fear of backsliding after the choice has been made. By animal attitude or behaviour we would not mean, of course the behaviour of the animal species, but metaphorically the lower element in man, whose upsurge indicates the intention or the choice to live and think at the lowest level.

We must, at the same time, create a horror of being a parasite. The moneylender or usurer is known to be one.

But usury is an evil that can be remedied by law and administration of justice ; other forms of parasitism cannot, and they are many. I feel quite often that I am a parasite, living on society in the sense that I take from it more than I give in return. Typical of the parasite is the statement, "What have I got from society (or the state, or the government) that I should think of giving something in return at cost to myself." There are those who say this openly, and not in their own hearts, but I wonder how many, if they examined not only their actions but also their attitude strictly and without giving themselves the benefit of any doubt, would be able to clear themselves of the charge of parasitism in every possible form. Exploitation is another aspect of this. Muslim religious law in order to prevent exploitation and parasitism, reduced the number of professions which a good Muslim could adopt to those which fulfilled a genuine need. Agriculture, shoe-making, tailoring, paper-making, calligraphy, the crafts of the carpenter, the ironsmith, the tinsmith, these and the like were honourable professions ; the bangle-maker, the goldsmith pandered to frivolous desires ; these professions were not honourable. You will find few Muslims dealing in foodgrains, because the law for obvious reasons required that such dealers should be content with profits that would just enable them to carry on their trade. No industry was permitted which required hired labour, for using the labour of other for one's own gain was exploitation, and therefore to be avoided as unjust. Of course, these ideas now out-of date : which means, unfortunately, that there is no moral or legal bar now to exploitation of the needs or fancies for commercial benefit. Every people need a government and every government needs employees of various grades to carry on its work. Such employees are parasites to the degree that they live on the needs of the government and the people. The kind of security in service that we have now, while it is a safeguard against injustices that could be committed by employers, is also a strong inducement to parasitism, the exploitation of the needs of the government and of society. There is no remedy for this, except a firm resolve by every individual to see to it that in all his dealings he gives more than he takes.

Does the principle of giving more than one takes apply even in trade? you will ask. Suppose I said, No, not in trade, because trade depends on profit, you would remind me of how today consumers are being cheated by adulterators and compelled to pay prices that producers, distributors and shopkeepers combine to demand. But I have no hesitation in saying that those who supply the basic and even the fictitious needs of the public must beware, above all others, of turning into parasites. The temptation to vary prices according to the availability of goods, the need or the gullibility of the customer is hard to resist, and where competition is severe, the mind of the customer is conditioned favourably by continuous and clever advertisement. Big business has never in history submitted to religion or ethics or the state, unless submission appeared to be the best way of strengthening its position. Buddhism, Christianity, Islam have all suffered at the hands of big business, which adopted them and used their doctrine and ritual as a means of its own expansion. In our own country, since independence, big business has continuously exploited our ideology. Dr. Zakir Husain, in the only speech he made as member of the Rajya Sabha, showed how the Second Five-Year Plan had been made to serve the interests of private enterprise, although the aim of the plan was to carry socialism a step further. Communism has, indeed, destroyed big business by making all production, distribution and sale a state monopoly. But whatever success has been achieved by Communist economy has been due to the individual citizens being willing or being forced to give to the state in the form of service more than they took from it in goods.

This brings me to the third point of the distinction between animal and man : the consciousness and deliberate acceptance by man of the duty to cooperate in everything that is necessary, useful or even remotely contributory to the maintenance and betterment of social life. It is in the performance of this duty that men are brought face to face with each other, have to bear with each other's weaknesses, to understand each other and those complications which, unless resolved, lead to ugliness, misery and injustice. It is this that induces us to define social

values, to consider how we can make ourselves acceptable as fellow-workers and how, as citizens, we can contribute to the smooth working of all those establishments and institutions which have been created for general benefit. Here, as in the matter of parasitism, we have to examine ourselves, and see how our conduct makes us instruments of promotion or hindrance, remembering that the sphere of cooperation is not limited to personal relationships and personal conduct only, but extends far beyond. We have to cooperate not only with neighbours and friends or those with whom we participate in common enterprises. We have to cooperate, in spirit, with all those forces in world history which have saved man from remaining a mere animal and have inspired him with vision of what he could become, if only he had the will. Those forces are still at work, in our own country as elsewhere, waiting for us to take up the challenge and create a genuinely moral society.

Relevance of Adult Education to Educational Crisis

MALCOLM S. ADISESHIAH

Dr. Zakir Husain in his Patel Memorial Lecture described the crisis of the educational system that he had helped to develop thus: Just as we can turn a so-called intellectual book school into a mechanical memory training school. as we have, God bless us, succeeded in doing in hundreds of thousands of our schools without a dog barking and without yet preventing their number from jumping up higher and higher, so we can, as we have in quite a few cases, succeeded in making of the work school, the basic school, a place of mechanical work. I want in his memory to call attention to some aspects of the all prevailing crisis today of our educational system. Education is for me the process of learning. The education system is the complex of institutions—the school, the college, the University—which mediates that process. Education is thus the judge of our educational system. As a learning process, society through the educational system decides what it wishes to learn where and how.

Educational System—A Reflection of Our Society : And here is our first dilemma. Our educational system is a reflection of our socio-economic system. It is as maldeveloped as our economy. The evidence of this is seen in the fact that its products are unemployed or unemployable. Our economy is growing at such a slow pace that it is not able to absorb the engineers and scientists produced by the educational system. Should our engineering colleges and polytechnics then have been planned as we are doing now at the same rate of growth

or non-growth as that of our economy? We planned the fourth Plan at an annual average rate of growth of 5.7 per cent and industry at 8 per cent. Actually we will be averaging something nearer 3 per cent and 6 per cent respectively. For the fifth Plan we are planning a growth rate of 5.5 per cent and an industrial growth of 8.3 per cent. And so for both Plan periods we are maintaining admissions into our engineering institutions at the reduced level that we established in 1966-67 and have thus equated our technical educational institutions with our economy in that both partake of a stagnant, stop and go and declining trend. Even more serious is that the products of the educational system are unemployable. Today 3 million of the 3.2 million S.S.L.Cs. and above registered with the employment exchanges are the non-professional general education S.S.L.C., P.U.Cs., graduates and post-graduates. They are not employable because what they learn in the educational institution is apparently not what our society needs. I say apparently because it must be that society itself does not know what it needs and takes the easy way out in letting our educational institutions churn out year after year the same irrelevant products. We are accustomed to criticising our educational institutions as being out-dated in their learning materials, futile in their learning techniques and misleading in their evaluation of what has been learned. But this is exactly what our society wants of our educational system. How otherwise can we explain the long train of educational reform blue prints and educational renovation reports starting from the Wardha Scheme to the Kothari Commission that we have not done anything about? It is not simply the school and college that have not acted on them. It is society which does not want them to. Contrast this with such proposals as the new agricultural technology—HYV, NPK and pesticides—which society promptly acts upon. Or again how can we explain the quantitative explosion of our educational institutions with parents rushing in year after year to enter their children into the deteriorating schools and colleges to a point where the admission time is a period of nervous breakdown for so many of our headmasters, principals and vice-

chancellors. Contrast this continuously rising demand for the useless education imparted outrunning its supply, with the demand and supply situation for such similar products as adulterated food or infected milk. And so our first crisis point is that our poor maldeveloped society is getting the poor distorted educational system that it demands.

Educational System—An Elitist System : This social demand for education is a class demand—and that is the second point of our educational crisis. Even this poor educational system of ours is so structured as to load the dice against the vast majority of students of school or college going age. It is not only that there are more students who are out of school rather than in it—60 per cent at the primary, 80 per cent at secondary, and 97 per cent at the University level are out of school; but in the process the poor majority, who are pushed out of school and college learn how unsuited they are to go to school, how ragged their clothing is to sit in with well clad student, how atrocious their manners are at the midday meals compared to the behaviour of the well-fed ones and above all how stupid they are vis-a-vis the 3 per cent bright ones who go on to college and university. There is a vicious circle, a kind of built in perpetuation of privilege in the school system, as there is in the social system. Those who survive in the schools and colleges do so because their fathers have the better positions and their sons and daughters will get better jobs because they stayed on in school ; their fathers and mothers have all the places of power in government and business and so their children stay on in schools to take over these centres of power from their parents ; their parents are well mated with large doweries and endowed property and they will also marry into similar families and become the most handsome bridegrooms and the prettiest brides because they have stayed on in school. Thus the educational system is the monopoly playground of the well to do minority of our society. In return it sustains them and reflects their class values which are handed down from one generation to the next.

Irrelevant Education-Content and Techniques : The curricula, methods and techniques of our educational system are a reflection of this lopsided social system. We worry about students from the villages, who are the majority sector in the country, being forced to follow an urban-based industry-oriented curriculum. We are critical of the learning methodology which calls for cleverness in beating the rules and competition, leading to the survival of the most ingenuous. We argue against the teaching methodology which teaches conformity through verbal outpourings and moving demonstrations in an atmosphere of quiescence. We turn away from the evaluation system which is no record of what the students learn but simply of the marks they get. Here again the education system reflects in the contents of its learning, its methods, techniques and evaluation processes the mores and values of society, to which it has added its own twists and twirls ; for the school is the full-time learning institution, while society has besides learning, other avocations. Hence the perversions of the learning process in the school owe a part of their origin to the school which has added to and improved on the irrelevances it mirrors from society. It has framed a system of learning—curricula, contents, techniques, methods and evaluation—under which those who go through it slowly, laboriously and surely become clerks in the Government, technicians in industry and the extension agents in agriculture, while those who learn to beat the system and finesse the examination, become the political and economic elite of the country. All classes have served their apprenticeship in the school—the drop-outs, as hewers of wood and drawers of water, the conformists, as the skilled workers, and the clever ones, as the exploiters. The educational tools which they use are derived from society but their use and further refinement is the education system's contribution.

Moral and Immoral Values and the Educational System : A fourth crisis point is that our educational system reflects the values and morals of our social system. We have just started the school and college year once more. Just as in society where we have to pay something extra to obtain the cement or sugar

or yarn our family consumes, so too in admissions to our schools and colleges the student sees his parent or guardian paying an under the cover 'donation' to have him admitted to the institution. Just as we have to have some godfather—a minister, an M.L.A. or M.P. or at the very least a P.A. to a Government Secretary—to be considered for a job, so too we carry so called recommendations from these persons to secure an interview with the principal or headmaster for school and college admissions. Further, to be sure to get the job, a bribe has to be given, and so too the students see teachers being appointed upon the payment of similar sums of money to the appointing authority. Other more subtle and in some cases justifiable forms of favouritism which are built into our society in the name of social justice—the reservation of posts to scheduled castes and tribes—the safeguarding of the culture of ethnic minorities, the student sees reflected in the school and college which goes one better in reserving seats for what are called backward communities. We are sowing the dragon teeth of casteism and communalism in the early formative years of his life. Our educational system thus, has become the training forum and demonstration centre for the corruption, the dishonesty, the nepotism and the inhumanities which are part of our social system.

And so our educational system finds itself in contradiction with what education is. Education is learning. Our educational system is memorising. Education is learning how to learn. Our educational system is learning how to conform. Education is the right of every Indian. Our educational system is a denial of education to the majority of Indians. Education is life long. Our educational system is age specific at 11 or 14 or 18 or 21 years. Education is democratic calling for equalising educational attainments. Our educational system is elitist dividing the educated few into intellectual and social hierarchies. Education is humanistic standing for work, truth, understanding, cooperation through its one to one relationship. Our educational system is anti-human or inhuman in promoting intellectual laziness, dishonesty, corruption, egoism based on the principle of each man for himself, the devil taking the hind-

most. I regard this antimony between education and the education system as one aspect of the parlous position of our society and our educational system. Against this profound crisis gripping our educational system, what do we do ?

The Way Forward

Understand the Crisis : The first task is to understand the crisis, that is the nature, limitations and ills of our socio-economic system. This is for me an essentially educational task and is a prior obligation on our educational system. Our socio-economic system today involves a structure in which the dominant group is not simply the monopoly houses and the big landlords, nor the capitalist and land owner but people like you and me—the lower middle class. Dr. K.N. Raj in his Kale Memorial Lecture defined the lower middle class as comprising of small proprietors in agriculture, industry and commerce (dependent to some degree on hired labour), a wide spectrum of the self-employed, and those engaged in the professions of medicine, clerical and administrative work and teaching (whether self-employed or working as employees). The criteria for the identification of the components of the lower middle class is that the income of the person should be derived to a small extent from property and a large extent from work. Property here is not only material assets such as land, machinery, commodity stocks, shares and deposits but also what we have come to call human capital. The possession of certain kinds of knowledge and skill in the administrative, managerial and scientific areas place the holder in the same position of earning a rental element similar to the holder of a fleet of taxis, a company share or an urban/rural property. It is this group of the lower middle class to which all of us in this room belong which holds political reins in each of our States and in the Federal Union, which runs the economic machine of State Capitalism and which is responsible for the gap between professions of equality, social justice and growth and their expression in soaring prices, hoarding and black money and black marketing, the mockery of land reform, the induced failure of the whole sale grain take over and the stagnant economy. We, the majority, and not some large landlord, some giant indus-

trialist or avaricious black money purveyor (except in so far as they are allied to us) are responsible for and/or tolerant of the wheeling and dealing, the corruption and intrigues by which the political and economic machine is kept going.

Preconditions to Educational Regeneration : Having pointed to education's responsibility to analyse the nature and gravity of the crisis of our society which begins with us, with each of us, it is then necessary for education to help us study where we go from here. It could be in any one of several ways which I will broadly classify into two paths. One is to do nothing and allow the mounting contradictions in the system to move us further away from the values of justice, liberty, equality and fraternity that we embodied for ourselves in our constitution. The other alternative is to work towards a system under which political power will be shared with the rural masses who are now kept out of it and the socio-economic system move in the direction of their participation in all decision making processes, involved in establishment of strategies, in the elaboration of policies and in formulation of plans as well as in execution of projects. I need not say that I very much hope that we will move in the second direction. But to do so there are three rather serious and somewhat sombre preconditions. The first, is that we of the lower middle classes must be prepared to shed our current monopoly positions of power and our alliance with and tolerance of the forces of reaction and accept sharing power with the poor numerical majority. We of the lower middle classes have successfully carried out the renovation of wresting power from the capitalist classes and the higher castes but we have also seen to it that the renovation stops at us. We have managed to change our socio-economic and political pyramid by moving everything from the top to the middle. We have spotlighted our monopoly houses and established curbs on them, we have abolished the princely order and nationalised our financial barons and removed our large landlords or made them exist under benami conditions and elected ourselves to the Lok Sabha, the State Assemblies, the Panchayati Raj institutions, the cooperative managements, etc. The bottom of the pyramid is still where it was and has not shared

in this revolution. It is this revolution which must now be extended to include the poor majority. Second, the poor majority—particularly the currently unorganised, disinherited, dispirited rural poor—must be organised to participate in society and share in its power centres, its economic processes and its cultural expressions. It is important here to remember that political participation is not coterminous with the exercise of political power. We have a society in which 60 per cent of the people exercise their right to vote but only the same small select group have the entry to the elective and appointive offices of power and decision. We no longer accept caste as a legal or social norm, we have now committed ourselves politically to removing all forms of privilege leading to inequalities. Now these normative positions of ours must be translated into realities and that calls for the organisations of the poor majority for political and social action and decision-making. Third, the educational instrumentality should be reshaped and renovated as a means of bringing about this society. All these three preconditions are in our hands and it is our inescapable responsibility to help to bring them about if we are to move towards a progressive, peaceful and just society.

Autonomy of Educational Process : But earlier, I took the position that the educational system is just as good or as bad as society. It is true that the educational institutions, educational content, educational techniques are conditioned by the nature and stage of development of the society of which they are parts. And when we talk of the need to functionalise education, to make the curriculum reflect our rural and urban realities, in other words to rid ourselves of the foreign models on which the system has been built by making it a more faithful mirror of our own society, we must be aware of this danger, of the educational system reflecting the stagnation, the shoddiness and the sins of the social system. While the educational system faces this parameter of being a part of current society—as far as its ills, weaknesses and limitations are concerned without reflecting or as Dr. Zakir Husain put it through perverting the strong points of our society, education as the process of

learning faces no such constraints. Education is autonomous in the sense that the learning process can function anywhere, gives rise to new and innovative models and can meet squarely the challenges of what has been described as the revolution of rising expectations of our poor countries or the richness syndrome of the industrially advanced countries.

Out-of-School Education as the Learning Process : One such educational emanation is the new form of Adult Education which I prefer to call by the more generic title of out-of school education, which others also term as non-formal or informal education. But right at the start I must confess that I am not satisfied with any of these terms starting from Adult Education on to out-of school or informal education because of their question begging nature. They imply an educational dichotomy between the child and the adult, between school and the farm or factory, between formal institutionalised instruction and non-formal deinstitutionalised learning. In terms of institutions and of course in course content there are distinctions. But the educational discovery or rediscovery of today is the unity or oneness of education—as the learning process, continuing, never ending and individually and socially responsive.

It is the use of education as the learning process that I regard as one significant solution to our social and educational crisis. Its clientele is the poor majority—the drop-outs and push-outs from our school and university system, the illiterate rural masses who constitute 70 per cent of our society, the organised industrial workers who are continually battling to relate their earning to escalating prices, as well as the students imprisoned in our schools and colleges, we of the professions, the educators, scientists, the engineers, the doctors, and nurses, the administrators and the politicians, and the capitalists and large landowners. This continuous learning process is open to all in our society. It is universal and can be denied to an individual or a group only by neglect or manipulation. There is no need here for establishing priorities or a time path except in relation to the majority who have to be started now on the need to learning.

The content of out-of school education as noted earlier is varied, variegated and disaggregated. The learning content for a school or college drop-out around the skills of communication, computation and reasoning in his work or home situation, will be different from that of an illiterate farmer and agricultural labourer who must also learn skills of his occupation and those called for by the imperatives of economic and political participation in his society at the village, state and national level. In fact that disaggregated curriculum will follow the individual learning path and aptitudes of every individual. That is the essential humanism of out of-school education. The curriculum unit is not a gaggle of boys and girls sitting in a class room, not the morning shift of factory workers meeting for vocational training, not illiterate adults assembled in a functional literacy course, not women or youth groups going through special programme but the individual men or women. Such a curriculum has to be innovated and imagined and is subject to constant renewal and change.

Its teaching technique and learning methodology is one of dialogue and not discourses, of discussion, not of ex-cathedra pronouncements, of the multitudinous means of self-learning and not imposed instruction. In this setting there is no real division between teachers and taught, the learners and the learned. Every one is learning something all the time and feeding back the results—positive and negative—into the system of methods and techniques. This makes impossible imposition of any ideology, except the ideology that every man is a thinking, teachable, learnable individual, an individual who is endowed with rights which he has been deprived of, an individual who thus becomes conscious of his rights and the need to exercise them fully, freely and responsibly. Out-of school education is thus inherently human and deeply democratic.

Its evaluation procedures are similarly as continuous and continuing as the learning process itself. There is no point of time where the evaluation of learning takes place or leaves off. The evaluation of each piece of the learning process is on going

and takes place during and at the end of every learning cycle. Its expression is not a diploma or certificate which divides people into the successful and the failures and grades the successful into a hierarchy of privilege, but the actual work turned out—whether it be in improved agricultural practice, or ability to use a sophisticated machine, or capacity to organise into groups in order to participate in the country's political processes and economic and social decisions. Out-of-school education thus enables each learner to break through the constraints imposed by examinations and their accompanying diplomas and degrees which are probably the most serious denial and defeat of the learning process, and to participate in a system of evaluation which sets him further forward on the learning path.

There is also an immediate rescue operation for our school and university products that out-of-school education must engage in. Earlier, I referred to the unemployables that our school and university system is turning out. The 5 lakhs educated employment generation scheme launched this year by the Union Government begins with the tragic admission: "a large majority of the educated unemployed turn out to be really unemployables." Hence about 60 per cent of the Rs. 100 crores budgetted for the programme is being allocated, on the basis of schemes formulated by the States, for the training and retraining of the matriculates, graduates, and post-graduates to make them employable. Over half the number, that is around 2.8 lakhs of 5 lakhs of the educated unemployed, are being put through ground level orientation—which means first deschooling them, and then educating them to make them acceptable in the employment market. Such is the immediate first-aid ambulance operation which our out-of-school education is being asked to perform—to undo the damage done to its products by our educational system. All over the country, in every state and union territory, new and innovative education and training programmes have been launched outside of the schools and colleges, inventing the course content, using the pedagogy of the factory, office and market place, and testing the trainees continuously in terms of the particular life situation which

they are planning to enter. I leave you to imagine what these men and women think of the educational system which has crippled them, and the out-of-school system which is rehabilitating them. Here is one of out-of-school education's immediate functions, the function of rehabilitation of the majority of men and women who have passed through the school system. But I wish to point beyond this immediate service function of out-of-school education and refer to its potential for saving the school system itself.

Probably the most important facet of out-of-school education is its fall-out effect on the school and college system. There is a kind inverse Gresham's law at work here whereby good education drives out bad education. No country, no society runs two parallel educational systems in the long run. One merges into another. What we need is to make a start on out-of-school education, because once we do that, its techniques, its evaluation system and its end purpose can begin to be fed into the school system and help in the latter's renovation and restructuration because it has helped society itself to change from a stagnant to a dynamic system, from a closed class-ridden sub-system to an open participatory community. This fall out effect on the school system will be all pervasive. The work-oriented vocational bias of out-of-school education which takes people at the point of whatever work the learner is engaged in and develops learning system out of it and through it onward and forward will help school education develop a similar work and vocational bias, without imposing on it as it has done in the basic schools in the past artificial work situations, what Zakir Husain called mechanical work situations. Out-of-school education's learning methods which I have earlier described as learning how to learn will help the school replace or at least supplement the element of compulsion which forces the student to abandon what he wants to do in favour of the immobility and boredom of the school by linking learning with his needs, desires and aptitudes. It will help the school turn around and scrap its various small hordes and piles of fixed information and immutable knowledge called syllabus, and replace it by a wide-ranging, varying, changing, and growing

learning process where the ability to understand, to analyse, to seek and search and the link between the general and particular between knowledge and action become decisive. In this again the learning process in coverage is practical—it is the practice of analysing, of seeking and searching. It becomes a reflex and a habit with the subject. For this the master-pupil relationship is replaced by that of partnership in which everyone is receiving and giving—receiving the substance of learning and giving from his thoughts and his experiences. It demonstrates how the school's selection and evaluation system, which as we have seen is an ideological and actual smoke screen of so-called merit but whose reality is the perpetuation of privilege, can be replaced by an open system in which failures in examination and rejections by society are absent and where society first and the education system as a consequence are wide open to all for study, training, updating and professional renewal.

Out-of-School Education as the Curing Process : That is why I look to adult education which in this lecture I have broadened out to range over all forms of out-of-school education to instil in us the will to act. And that is what we are lacking. We know what is profoundly wrong in our educational system. We have time and again over the past fifty years established a comprehensive diagnosis of our educational malady. This diagnostics is almost complete. I say almost in that we have not always traced the disease in the educational system to the disease in our social system. This gap we are now filling. We also know what kind of educational renovation and regeneration we need. We had this charted for us by the Zakir Husain report on basic National Education in 1936, the (Radhakrishnan) report on University Education in 1948, the (Lakshmanaswamy) report on Secondary Education in 1954, the (Kothari) report on Indian Education in 1966, the report of the Indian Adult Education Association round table on lifelong integrated education in 1968, the National Policy resolution on education in the same year and in the most recent report, Towards a Learning Society, established in 1972 by one of our States—Tamil Nadu. On the broader socio-economic front we have charted the way forward, the next

step that we should take—in the report—the Approach to the Fifth Plan—which sets forth the strategy and programmes that would lead us on to a free, just and productive society through a direct attack on the forces of inequality and under development that are shackling us. All the conditions for a move forward—an agreed diagnosis and an accepted prescription—are thus present. What we need is the will to act. And it is to the generation of this revolutionary spark—the will to act—that I look to out-of-school or adult education, with its tradition to fight against using education to continue the past unjust social order, to accept instruction as the means of ensuring conformity and assimilation into a stagnant culture and elitist social system. I look to it to build in place an open, questioning, productive system marked by the continuous struggle for learning, which is acting on the principles of a real and effective democracy. Only there is now no time to lose. We need now to act. Let us each as educators act.

Education for Agricultural Progress

M. S. Swaminathan

An editorial entitled, "Not form but content" in the August 1974 issue of the *Indian Journal of Adult Education* underlines the dilemma of our educational programmes and efforts. The late Dr Zakir Husain referred to the same problem in the Sardar Patel Memorial Lectures delivered over the All India Radio in 1958, when he said, "We have turned the so-called intellectual book-school into a mechanical memory training school, and succeeded in making our Work School, the Basic School, a place of mechanical work. The work is extraneously and uniformly prescribed; there is no semblance of a spontaneous motivation in the child and he is supremely ignorant of any personal or social purpose behind his work. Work which is mechanical, work in which no mental exertion is involved work in which one is satisfied with just any result and there is no constantly prodding urge to aim at its possible perfection, work in which there is no self-criticism and so no real progress, is in no sense educative. Schools that have such work are not Work Schools in any sense". Delivering the first Zakir Husain Memorial Lecture of the University Grants Commission in September 1970, I pointed out that the only feasible way of marrying intellect and labour, which Mahatma Gandhi had diagnosed over 45 years ago as the first pre-requisite for rural development, is to take advantage of the new opportunities which recent agricultural progress has provided for bringing about a "Learning Revolution". In that lecture I pleaded for involving all university students in developmental and rural educational projects for at least two months in a year through

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a suitable built-in provision in Plan projects. With an understanding of the basic principles of biological productivity, a whole new world can be opened up for both school children and adults in villages. Appropriate projects involving the study of birds, the identification and eradication of weeds, the detection of acidity, salinity and alkalinity, the harvesting of water, the prevention of damage by rats and pests both in the field and in the store rooms, the more efficient use of solar energy, organic recycling, social and man-made forestry, crop-livestock integration, coastal and inland aquaculture would all have immense educational and practical value. The equipment needed for such studies is simple and inexpensive and mostly requires only a well informed teacher who does not curb the questioning mind and is not afraid of long walks. With a little training, this is one field where all university students of agriculture and science can render great service.

India, as our Prime Minister Shrimati Indira Gandhi has frequently emphasized, is a land of the youth and poor, who constitute the two genuine majorities in the country. Fortunately, we have extensive programmes for the education of youth. An idea of the wide range of programmes now available for providing youth with opportunities for learning through work experience can be obtained from the "An inventory of Central Government's programmes with relevance for youth work" published by the Directorate of Adult Education of the Ministry of Education and Social Welfare in 1974. It must however be confessed that a considerable proportion of children belonging to landless peasants and migrant labour are missed from the educational umbrella. Serious thought needs to be given to this problem.

The dimensions of our educational problem are indeed staggering. In spite of all efforts the number of illiterates in absolute numbers tended to increase during the period 1961-1971, although the growth in literacy expressed as a percentage showed a rise from 24.03 in 1961 to 29.34 in 1971. Growth rate in population is yet to show a marked fall. Therefore, as suggested, in the editorial in the *Indian Journal of Adult Education* to which I referred earlier, we have to

give more thought to the question of what we wish to achieve through adult education. With the beginning of the scientific transformation of agriculture in certain parts of our country, new dimensions of adult education also appear. There are new needs for education among the rural communities since there is hunger not only for new knowledge related to agriculture but also for new skills, particularly technical skills, connected with it. The demand for 'techniracy' (a term which I used in the Princess Leelavathi Memorial Lectures of the University of Mysore in 1972 to denote mastery over technical skills relevant to the individual's need), is likely to be much stronger and, deeper and also more widespread than that for formal literacy, or even for functional literacy. New approaches to adult education must capitalise on this new demand and need for 'techniracy'.

I would like to briefly refer to some recent global developments in food and agriculture, to indicate both the urgency of developing and promoting educational approaches for speedy agricultural progress and the new possibilities which technological development has opened up in the area of adult education.

Global food production outlook

The world has been going through cycles of optimism and pessimism on the question of population—food supply balance. At the current annual growth rate in world population of 2 per cent, it is generally agreed that food production must be expanded from the present annual growth rate of 2.6% to at least 3.6% in the next 12 years. In our country, the average growth rate has been about 2.8 per cent since the beginning of the First Plan. We however reached a growth rate of 4.5 per cent per annum during 1967-68 to 1970-71, thanks to the striking progress made in wheat production. Since more equitable distribution of the food produced seems to be still a dream, average projections of growth rate have little meaning to areas of dense population, great poverty and widespread under- and malnutrition. Here, not only the growth rate in food production needs to be much higher than the postulated

global average of 3.6% but there also has to be a simultaneous rise in the purchasing power of the population. Agricultural growth in such areas has to ensure increased food production as well as income and employment generation. Employment guarantee schemes have to be dovetailed to food production drives, as is being done in Maharashtra. Thus, food production strategies have to be tailored to each socio-economic and agro-ecological milieu in such a manner that both food availability and the capacity to purchase food are concurrently assured.

Food production models

Taking the various parameters which regulate food production, different groups of scientists have been constructing models which provide a glimpse into the future production possibilities. Thus, the University of California group headed by Kenneth Watt has proposed a model termed "SPECULATER" to indicate a simulation programme for examining the casualties underlying land, agriculture, transportation and energy relationship. In the second report to the Club of Rome, Mihajlo Mesarovic and Eduard Pestel¹ have constructed a model which divides the world into 10 regions in terms of its environment, technology, demographic-economic characteristics, institutional and societal processes, and psychological and biological make-up. The output of the model has been structured to show relative price of various policy options as well as the cost of delaying various actions.

Applying their model to South Asia's food and feed needs on the basis of what they term somewhat optimistic assumptions about population growth, fertilizer utilization and bringing the uncultivated land into production, Mesarovic and Pestel have estimated that the annual protein deficit of the region would be equivalent to that of 500 million tonnes of grain by A.D. 2025. If the production and consumption gaps in developing countries are not closed either by accelerated

1, Mesarovic M. and Pestel E.—Mankind at the turning point. The Second Report to the Club of Rome, 1974.

domestic production or imports, they predict that 500 million children may die by 2025.

In spite of such grim predictions and in spite of the efforts of some experts to revive the "triage hypothesis" which would lead to the writing off of large sections of humanity to death by hunger and starvation, the World Food Conference held in Rome in November 1974, adopted a resolution setting forth the following goal :

"Resolves that all Governments accept the removal of the scourge of hunger and malnutrition which at present afflicts many millions of human beings, as the common responsibility of the international community as a whole and accept the objective that within a decade no child will go to bed hungry, that no family will fear for its next day's bread, and that no human being's future and capacities will be stunted by malnutrition."

Are these empty words or do they represent realizable objectives? In my view, the goal can be achieved but this will need intensive and co-ordinated efforts within developing countries as well as between developed and developing nations on a scale and quality seen so far only rarely. This will involve steps like soil and water conservation measures and ecological regeneration through tree planting on an unprecedented scale, integrated irrigation and power schemes, spread of improved genetic strains of plants and animals, conservation and effective use of all available nutrients, co-ordinated systems of pest management, detailed attention to all aspects of post harvest technology, voluntary restrictions on the consumption of animal products in affluent nations, promotion of co-operative system of plant-animal-man food chain, harnessing the resources of inland and sea waters, promotion of recycling and energy conservation principles, and mobilization of human resource. Among these, the mobilization of the human resource through extension and educational efforts and through matching economically viable technological packages with appropriate packages of services and public policies, is the most

important as well as difficult task and should consequently receive the greatest attention.

It is clear whether we look at the productivity of crops, farm animals or fish, the gap between what is immediately possible and what is being achieved is very great, particularly in several countries of South Asia and parts of Africa. Our first task is to narrow this gap. The precise methods of doing this will naturally vary from area to area. Many limiting factors will have to be overcome—lack of appropriate extension manpower, deficiencies in technology, inappropriateness of institutional structure, inadequate inputs, excess or poor water availability, fragmented holdings and absence of organized human efforts—one or more such factors may limit productivity in different parts of our country. The various steps necessary for converting a technological breakthrough into a production advance and a production advance into a prosperity advance hence need to be identified and initiated by each State Government.

Further possibilities for increasing biological productivity

During recent decades and particularly during the nineteen sixties, much progress has been made in raising the ceiling to yield levels in major cereals and millets. By and large, the principles used are the improvement of the harvest index (i.e. the proportion of economic yield to the total biological yield) as well as the ability to respond good management, through a restructuring of plant architecture and developmental rhythm, the exploitation of hybrid vigour and the enhancement of per day productivity through the introduction of insensitivity to photoperiod, thereby facilitating multiple cropping. At the International Rice Research Institute in the Philippines, over 20 tonnes of grain have been produced in a year through multiple cropping. It could therefore be asked whether we have reached the ceiling to yield potential in our major food crops or whether there is scope for raising the ceiling to higher levels.

The scientific potential for improving food production and nutrition has been brought out in a series of excellent papers in

"Science" of 9 May, 1975 (Vol. 188, No. 4188). An article entitled "The Ganges Water Machine" by Roger Revelle and V. Lakshminarayana in this issue of "Science", for example, describes some approaches towards making better use of one of Nature's greatest gifts to man, namely the river Ganges and its tributaries and the flat and fertile plains through which they flow. Similarly, the present and future possibilities for improving crops and animal productivity have been dealt with in a report on "Agricultural Production Efficiency" published by the U.S. National Academy of Sciences in 1975.

The efficiency of light utilization by plants can be computed as the ratio of calories of yield to calories of photosynthetically active sunlight absorbed by the plant. Although the theoretical quantum of efficiency of photosynthesis is 12%, incomplete capture of sunlight by leaves throughout the growing season and wasteful respiration of CO_2 from photosynthetic product restrict the observed efficiency of most plants.

Various calculations have been made to estimate the theoretical and potential yields of crop plants. In such calculations it is assumed that light interception is full but that there are Albedo and Inactive absorption losses. Whatever be the absorption of light energy in plant, its conservation is only about 26% because of the conversion efficiency of quanta into chemical form. When losses for respiration are also accounted for, one expects only 71 gm² day (CH_2O) production. There could be differences in such calculations.

Crucial role of water

A major variable in calculations of this kind is the radiation received at any given place which varies considerably. Secondly, the calculations also assume that there is no shortage of inputs such as water, adverse temperature, nutrients, pesticides, etc. If we consider only three factors, viz. light duration (energy), water availability and temperature, the period of maximum insolation in tropical regions unfortunately coincides with low availability of water and high temperature.

The latter would lead to high evapo-transpiration and consequently greater demand of water. In the absence of ground water or lack of its exploitation, water becomes the chief limiting factor in crop productivity. Thus, the period of potential maximum productivity unfortunately becomes in reality a period of minimum productivity. This fact is generally not recognized when scientists working in temperate regions estimate the potential for productivity in the tropics. In many countries of Europe and North America, the period of maximum day length fortunately coincides with periods of precipitation and temperatures conducive to growth. *Hence, the conservation and efficient use of all available water resources should get the highest priority in our developmental and educational efforts.* If there is water and nutrients, tropics and subtropics afford the possibility of growing several crops in a year through suitable multiple, relay and intercropping techniques. Also, full benefit can then be derived from the period of potential maximum productivity.

It has become increasingly clear that only by a suitable understanding of the basic aspects of biological productivity among the community as a whole and by co-operative management of certain farm operations by groups of farmers with small holdings that substantial and sustained progress can be achieved in agriculture. Increasingly, modern technology aims to introduce integrated approaches in farming. For example, now-a-days the term "pest management" is replacing the old term "pest control". Pest management involves the development and introduction of integrated pest control systems such as the use of resistant varieties, adoption of crop sanitation and agronomic methods of pest avoidance, biological methods of control and finally, the use of chemicals to the extent necessary. In the area of manuring, integrated nutrient supply systems are being developed which involve the appropriate use of organic manures, biological nitrogen fixation and chemical fertilizers. Watershed management in dry-farming areas involves the capture of excess rain water and storing it in farm ponds for later use for a life-saving and yield-increasing irrigation when the rainfall

stops. Successful mixed farming, multiple cropping and aquaculture systems also involve a considerable understanding of recycling principles and of the principles of synergy and harmony among different components of a farming system (The Sardar Patel Lectures of 1973 deal with this in some detail). Therefore, it has become imperative that we develop appropriate methods of techniracy. I would like to refer to a few approaches which the Indian Council of Agricultural Research is promoting in the area of adult education.

Krishi Vigyan Kendras (Farm Science Centres)

The broad guidelines for the establishment of Krishi Vigyan Kendras based on the concept of learning by doing were given by a Committee headed by Dr Mohan Sinha Mehta. The first Krishi Vigyan Kendra according to this pattern has been established at Pondicherry under the guidance of the Tamil Nadu Agricultural University. The basic aims of these Kendras are to : (a) identify the felt needs of the rural population in the area to be served by the Kendra in terms of specific training programmes which can help them to derive the maximum benefit from the agro-ecological assets of the area; (b) design courses in a manner that literacy is not a pre-requisite for admission to the Kendra; (c) develop training programmes which would help the trainees to acquire a mastery over the relevant technology; (d) restrict the admission in the initial stages to practising farmers and in-service personnel so that the training imparted is effectively used; and (e) develop the Kendra in such a way that existing facilities belonging to either government or voluntary or other organizations are used in the most profitable manner. In other words, the aim is not to invest money and time on brick and mortar jobs but to get for the community the full benefits from investments already made and from the available technical manpower.

A weakness in our earlier training programmes designed to bring about a scientific upgrading of farming has been the lower priority accorded to the training of farm women. It needs hardly any emphasis that several of the key agricultural operations both in the production and post-harvest phases,

are in the hands of women. Their contribution to agricultural operation is even higher in hills and neglected areas. Several problems of health are now known to arise from the improper storage of basic staples leading to the development of food toxins in them. Therefore, under the Krishi Vigyan Kendra Programme, special emphasis is being placed on the development of Kendras for rural women.

Any such new programme should be supported by an effective trainers' training arrangement, which can help to update the technological skill of the teacher and introduce him or her to the purpose and philosophy of the project. Appropriate institutions have hence been identified for undertaking trainers' training programmes in agriculture, horticulture, fisheries, animal husbandry, and land and water management. Plans are being prepared for two women's trainers' training centres—one in Central India and the other in the North-Eastern Himalayas. The ultimate success of these Kendras will depend upon a combination of factors such as the technical skill and mental attitude of the teachers, the relevance of the fields of training chosen, and the availability of mobile training teams and mass media support which can enable the Kendra to become a radiating centre for a techniracy drive.

Operational research projects

ICAR has initiated through our Agricultural Universities and research institutes and in a few cases bilateral agencies a series of whole village/watershed projects which are designed to bring about more efficient land-and water-use patterns based on principles of ecology and economics. The August 1975 issue of the "Indian Farming" contains several articles which describe the purpose and design of these projects. Such projects will provide considerable opportunities for the education of both school children and adults. In several cases, Krishi Vigyan Kendras and operational research projects will be linked. Whole village projects such as the rural aquaculture projects and the integrated pest control projects in rice and cotton can be used to help school children to learn science

through work experience and to introduce adults into the world of biological balance, harmony and synergy.

Functional literacy for rural people, based on their occupational interests and needs

The literacy courses for farmers in use in several states, both as a correspondence course and as a direct literacy course, are undergoing continuous refinement. Such courses should obviously be based not only on interests and needs of farmers, but should also be so designed that they are closely related to the cycle of agricultural operations, so that an incentive for farmers to continue is built into them. A recent example of an innovative approach in this area is the work done in Rajasthan to develop functional literacy courses on the basis of clearly identified bottlenecks and solutions to the improvement of agricultural production by small and marginal farmers. Similar courses need to be prepared specifically for the use of farm women.

Bypassing the regular literacy route

To the extent that the mass media can succeed in (a) transmitting the necessary information, and (b) demonstrating the necessary skills for daily living and successful farming, the question of formal literacy can be bypassed. Radio and films are already being used for this purpose, but there is considerable scope for refining the techniques of communication and spreading the message wider. This implies that the technical programmes should be still more specific in both content and time, geared to needs and frequently repeated. Also the imparting of knowledge and information has to be synchronized with the availability of the inputs essential for utilizing the knowledge. For example, there is no point in recommending a new crop variety or a pesticide or fertilizer, if these are not available in the block or the village. There is therefore need for effective co-ordination between agencies supplying knowledge and inputs.

Fortunately, we now have the assistance of regular T.V. as well as a Satellite Instruction Television Programme in several parts of our country. If this medium is intelligently used, it could become a powerful tool for transmitting timely and proper advice to farmers. In the audio-visual world of the future, extended formal literacy may be necessary only for those who are interested in pursuing education to higher levels. This is also likely to be true in a different way for nations which are already advanced in technology, since books imparting knowledges tend to get out of date quickly. Hence, if we make the transition from the preliterate to the post-literate world in adult education without passing through the conventional intermediate steps, enormous resources and time can be saved. Emphasis therefore needs to be given to the planned expansion and improvement of appropriate mass media.

Agricultural growth is an organic and dynamic one involving continuous interaction between man, animals, plants, soil, water and weather. Unless we tailor educational and development projects to suit the organic nature of growth in this sector, we will be consistently faced with disappointments. Adult Education Programmes will have to take cognizance of this requirement of agriculture. Mental resilience and humility are needed both to absorb continuously new knowledge and to modify approaches to the transmission of knowledge according to changed needs and circumstances. The Indian Adult Education Association which has already made valuable contributions has even brighter vistas before it, thanks to the tremendous opportunities now being opened up by science in rural development and communication.

ILLITERACY AND POVERTY

DR. G. RAMACHANDRAN

May I begin by saying how grateful I am to Dr. Malcolm Adiseshiah for inviting me to come here today and to deliver the Zakir Husain Memorial Lecture. He was kind and considerate enough even to change the original date and venue of this lecture for my sake and but for his affectionate insistence it would not have been possible for me to be present with you on this occasion. And then, as I stand before you to-day, a flood of memories comes to me of the late Dr. Zakir Husain in whose name this annual lecture has been instituted. I was associated with him in the earlier years of the Jamia Millia Islamia, the University, which he founded and at which I worked under him as a Professor. This was way back in 1926. Later when under the inspiration of Mahatma Gandhi, the Hindustani Talimi Sangh was established to promote Basic Education, Dr. Zakir Husain was the Chairman of the Sangh and I had the privilege of being one of the Secretaries under him. Later still, he became the Vice-President of India and, therefore, the Chairman of the Rajya Sabha when I was lucky to be a member of that Upper House. For some years, I looked at him daily sitting in the chair with that high dignity, erudition and grace for which he had become justly famous. We used to have a private joke amongst ourselves in the Rajya Sabha that the longevity of its Chairman would always come in for a drastic reduction! It was such a difficult place to occupy. There were redoubtable members who tore to pieces all procedure and almost daily created most unenviable situations. But Zakir Husain sat in the chair, "with unperturbed majesty and unhurried mind." And finally, when he became the President of the Republic of India, he received

the universal acclaim of the Nation. It is, however, as an educationist that his name will live for ever in the history of India. I think he was perhaps the greatest educationist of our country, in our time. As a humble educationist myself, I feel privileged and happy to deliver the Dr. Zakir Husain Memorial Lecture on this occasion.

Keeping in view my subject today, "Illiteracy, and Poverty" it is of considerable significance to remember that Dr. Zakir Husain and I worked as the Chairman and Secretary of an Adult Education Committee set up by the Hindustani Talimi Sangh many years ago and that when Gandhiji himself was alive and consented to guide the deliberations of this Committee. It was really a sub-committee of the Hindustani Talimi Sangh and its first meeting was held in Sevagram with Gandhiji present. Among other members of that committee were Kaka Saheb Kalelkar, the late Smt. Rameswari Nehru and the late Sri B.G. Kher. Within a few minutes after the Committee met we were face to face with the explosive realities concerning the vast and tragic proportions of illiteracy in our country and the incalculable consequences arising therefrom. Gandhiji's voice cut into the discussions like a sharp razor, laying bare the problems and solutions. It would be fascinating to recall the first set of findings which emerged from this meeting of the Adult Education Committee. The following were the major lines of thinking and the consequent proposals :—

1. Adult Education does not necessarily begin or end with literacy and yet literacy is an essential part of it.
2. No programme of literacy will succeed or be effective unless it is placed in the context of general adult education, touching the life of the people at all vital points.
3. While it would be a Himalayan task to make the millions of the Indian people adequately literate, it would be even more difficult to assure continued

literacy. To *make* people literate was perhaps a little easier than to *keep* them literate. This meant continuation work to make literacy self-developing after a period of time. Continuation work should become catalytic.

4. Illiteracy and poverty are both the cause and effect of each other and, therefore any programme for successful literacy should take note of the poverty of the people and literacy programme should be linked to schemes for the removal of poverty. Without literacy programmes thus becoming life-centered it will not bring adults willingly and effectively to literacy.
5. Such a programme for the millions cannot be implemented by any centralised agency but only through a vast network of decentralised organisations, institutions and voluntary bodies. The entire educated community in every walk of life must be involved in such programme, if necessary under the law.
6. Since literacy is the birth right of every citizen, the denial of it to any considerable number of people will be the betrayal of democracy. It would be the duty of the State to finance this programme and that, if necessary, through a special national cess.
7. The test of the success of literacy will lie in the literates themselves preserving in literacy and making use of it to acquire the knowledge necessary to help in solving their problems including poverty. Whether such a result accrues should be assessed by appropriate educational and popular agencies from year to year. It was also imperative to set a time limit for the achievement of total literacy.

It will be in vain to go into all the reasons why a great and massive programme of literacy did not then emerge under Gandhiji's leadership. The "Quit India Movement" intervened and political uncertainties and consequent administrative disarray played their part. But what is amazing is how, India

after becoming Independent did not take up this programme with all the urgency and seriousness, it called for. It is tragic beyond words that nearly 30 years after India has become a Sovereign Republic, nearly 300 millions of our people are either illiterate or inadequately literate. It would be staggering to understand and estimate the implications of this situation.

But before we look into these implications, let me enable you to look into the mind of Mahatma Gandhi as we sat with him discussing Adult Education in India. He gave an illuminating explanation for the statement. He said that literacy cannot be forced upon the toiling masses desperately engaged in just living somehow. A hungry and tired people will have no genuine interest in literacy. Literacy must come as a response to the inner urge of the people themselves who have eaten some food during the day and have some marginal energy. The best way to bring literacy to such people is to make the programme life-centered. Literacy work may well begin with conversations and explanations. As problems are discussed and adults become involved in a search, however, elementary, for knowledge to help solve them, then would come the desire to read, write and understand. As soon as the adults realise that for understanding the problems of their daily life and for possible solutions for the same, there is available easy and practical instruction in the written and printed page, then he would want to read. For assimilating and retaining what is read, he would want to write to conserve what he has learnt. This is the irresistible and imperative logic of literacy as it grows from point to point in the life of adults. *We thus clearly came to the idea of life-centered literacy.* If literacy is isolated into a special process of mental drilling with no link with life, it becomes mechanical, is only learnt superficially and therefore, easily lost. The relapse into illiteracy after a spurt of literacy is the tragedy that has dodged adult education everywhere in India. Even in the case of children, have we not found that they learn reading and writing better and quicker when both these are linked to their own lives,

environment and activities. Everybody knows that the first words the children learn are mother, father, milk and food and the name of play things. If the first lessons in reading and writing are linked with these images in the minds of children, they will begin to learn reading and writing just as they learn how to sit and then to crawl and then to walk. That is why in adult education the first thing to do is to make informal conversation on the problems of the life of the adults. Luckily no one has to teach the adults the art of talking. Talking has come to the adults as naturally as breathing. Adult Education, therefore, might well begin with talking, explaining, questioning and answering, illustrating and symbolising. From then on the process inevitably leads to reading and writing. Illustrations and pictorial representations make a phenomenal impact on the illiterate adult mind. The adult is thrilled to see picture and specially coloured ones of what he sees and knows in daily life. Singing and reciting can come before reading and writing. Chorus singing can give a fine start to Adult Education. Story telling can excite the thirst for knowledge. Nothing can make an adult education centre more cheerful and exciting than the showing of relevant and short film strips. In such a dynamic situation literacy emerges naturally and joyously. Let us, therefore be clear in our minds that the method is to weave literacy round the life and problems of adults, if we are to draw some 300 millions of illiterates in India into this mighty adventure of literacy and advancing adult education. These ideas came from Gandhiji as we listened to him in the first meeting of the adult education committee in Sevagram. It was Gandhiji again who stressed the link between illiteracy and poverty. He said that there was nothing accidental in the fact that the number of illiterates and those who lived in poverty were more or less the same. We all know this dark and tragic fact. It is heart-breaking. We talk of the poverty in India and admit that about 40% of our people live below the poverty line. We talk of illiteracy and admit that some 300 millions are illiterate or inadequately literate. We have thus in India almost the same number of poverty stricken and illiterate people. Gandhiji pointed out that this was a logical and self-evident situation. It was certainly not an accident. There is an in-

evitable link between illiteracy and poverty. No illiterate people can eradicate their poverty and a poverty stricken people will hardly look at literacy. Wherever there is illiteracy there will also be poverty and vice-versa. Literacy is thus not only a problem in education but equally one in our economics. Since Independence, India has certainly made phenomenal progress in increasing production in agriculture and industry, in expanding formal education, in improving communications and in the eradication of diseases, etc. But what is shocking is that the terrible realities arising from mass illiteracy have received only very inadequate attention. I am not unaware of the efforts being made by Central and State Governments and by non-official and voluntary agencies to spread literacy. But the first thing to understand is that this problem of illiteracy is like the problem of poverty which cannot be solved in any whole and corner manner. It can be resolved only by a massive nation-wide and simultaneous thrust in which the Government and the people join together with all their earnestness and resources. We see how the eradication of poverty is now being undertaken in some such manner. But let us realise once and for ever that poverty itself will never be eradicated without all the millions of our people becoming literate and capable of reading and understanding elementary printed matter on the problems of increased production in the field, farm and factory and in our villages and homes. As a member of the Rajya Sabha I pleaded some years ago that a massive and planned attempt should be made to eradicate illiteracy within 7 years and that the Central and State Governments should be jointly involved in such a planned programme as also every non-official and voluntary agency, plus of course every educated individual, and that the Central Government should provide a grant of Rs. 210 crores spread over the period of 7 years. Was this too big a price for a venture of such paramount and imminent importance? The then Finance Minister appeared to treat my plea with sympathy, but added the usual complacent statement that the Government was well aware of the problem and that everything will be done to solve it ! This was more than five years ago but not much has happened during these years. But

in the meantime every year the number of illiterates in this country is going up and keeping pace with the increase in population. Many crores are going into the Family Planning programme and I am happy this is so. I have no doubt it is our duty to arrest what has been called the 'population explosion'. But even this is not going to succeed without fighting the menacing explosion of increasing illiteracy.

Formal education has considerably expanded. This is all to the good. But this quantitative expansion of formal education has curiously not touched the growing illiteracy of the adult millions. How tantalising it is to see that on the one hand formal education is quickly expanding and at the same time the dark and tragic area of illiteracy is also steadily increasing. Even at the last meeting of the Central Advisory Board of Education which met in Delhi under the Chairmanship of our able and brilliant Education Minister, Prof. Nurul Hasan, I made a passionate plea that no time should be lost, at least now, to organise a massive national movement for literacy among the people. I pointed out how the failure of Basic Education, which was Gandhiji's greatest gift to India and the failure of many other plans and attempts to improve education were directly due to the fact that these attempts were made against the vast background of illiteracy in India. Without literate parents we are never going to achieve an educated India. I have already mentioned the clear view that literacy will not succeed unless it is woven round the life and problems of adults and their hard and bitter struggle to barely exist. For our farmers in the rural areas, literacy should be linked to the problems of his farm and his cattle, to methods of irrigation of his land and to the production and supply of fertilizers, to simple machinery which would help him to plough and till and reap. We must make for him a set of elementary lessons pertinent to his life and printed in simple language with plenty of illustrations. This would be the first primer of his literacy and his life at the same time. Such literature will give him a thrill and expand the area of his knowledge and self-help. Let us make use of every media of communication, like pictures and illustrations, the radio and film strip, song and drama and story to enlighten him. As with

our farmers so with our weavers, carpenters, potters, taners and other craftsman who are slowly facing extinction in the face of competition by the big and organised industries. Let us give them their own life-centered literacy, so that literacy will stick to them and they will stick to literacy.

It is at this point that the relevance of my subject today, "Illiteracy and Poverty" arises crucially and inescapably. Let there be no doubt whatsoever that a literacy programme cannot stand alone but only as a relevant part of broad based adult education. I have often defined adult education as education for citizenship. Citizenship in a free democracy and within an open society involves some training, a minimum of general education and last but not least the capacity to earn an honest living. What is the use of giving every adult a vote without giving him or her some training and some learning to exercise that vote freely without fear and under no pressure from within or without. Have I not seen in rural areas crowds of poor and illiterate voters herded together to vote for somebody for money and under threats. If money and pressure can buy votes then democracy becomes a mockery. I remember at once Vivekananda's ringing challenge that he recognised only two basic sins in human life, i.e., ignorance and poverty. Vivekananda saw with unerring eyes the link between ignorance and poverty. Let therefore, every one who wants to join in the battle against poverty join also in the battle against illiteracy and ignorance. The twin problems of poverty and illiteracy will be solved together or never.

I wonder if, in this year of grace 1975, it is at all necessary to enumerate the consequences of illiteracy in the Republic of India. Perhaps the greater wonder is that it is necessary to do so. Everybody will admit that illiteracy is a shame and a challenging national evil. But the dark ramification of this evil are not adequately studied. To be illiterate is a crippling handicap. The illiterates are worse untouchables. They are shut away not only from political and social rights but also from their birthright to learn and to know. There is today in India a mighty quickening of our conscience against social

untouchability. There is no such thing about this educational untouchability of literacy. The educated classes have become the new upper castes with the illiterates as the untouchables below them. The illiterates are without self-respect and cringe before the educated. The great world of written and printed knowledge in every subject is closed to them. They lack of course even the least and elementary knowledge of science and technology. They can learn nothing and, stagnate and deteriorate. They fumble and stumble in the darkness of life. We talk so much about the need for spreading elementary scientific knowledge among our people without solving the crisis of illiteracy. The illiterates stand outside the area of progress in every direction. He can be frightened, pressurised and made to kneel before the affluent and educated classes. Illiteracy is, therefore, the provocation for exploitation and the source of every superstition and obscurantism. All developmental projects of economic and social advance become a mockery in the area of illiteracy. For us in India, the talk of democracy, socialism and progress, with 300 out of the 600 millions of the people engulfed in illiteracy, is plain and unmitigated nonsense. If democracy is still unreal and socialism still far away, the reason is not far to seek. Will illiterates understand our Five Year plans or the challenges of sanitation, nutrition, public health etc.? Are we taking the people with us in the grand schemes and programmes we make for national growth? Are we not like fools trying to draw water from the well with a very leaky bucket? What then can we do and must we do? May I present some broad proposals:—

1. Let us make all work for literacy life-centered and linked to occupations. This means broad based non-formal education at every stage.
2. Let us stress the supreme importance of bringing adult women into the drive for such literacy.
3. There should be set up within the Ministry of Education a separate wing for Adult Education under a

Minister solely charged with promoting adult education and completing the task within 7 years.

4. The Central and State Governments must provide adequate funds for this work and if necessary through a special cess for this purpose.
5. Let us train a lakh of workers for the period of a month and spread them out to cover every language area.
6. Let us press into service the teachers and facilities of every elementary school and high school to take up this programme, so that every such school becomes a literacy-centre. Every teacher doing this work satisfactorily be given an honorarium of Rs. 30/-per month.
7. Education Departments and even the Universities should guide and supervise this massive programme. Let our leaders also set the example.
8. Every educated public servant should be involved in this national drive under appropriate rules of service, it being made obligatory that each one of them should produce ten literates annually.
9. Central and State Legislatures should appoint non-official committees to inspire and advance this work.
10. Since this programme has to be carried out in the most spread-out and decentralised manner, every panchayat in India should be brought into this work with the obligation that every adult in the Panchayat area would be made literate in 7 years. Each Panchayat should be given free services of two trained adult education workers.
11. A set of ten booklets should be prepared in every one of our languages on the basis of the concept of life-centered literacy and keeping in mind the occupations of the adult groups concerned. These ten booklets.

should hold not only the contents for attaining the necessary standard of literacy but also the minimum of knowledge for citizenship.

12. Every media of communication including film strips and the radio and, perhaps now, even television should be pressed into service to fulfil this programme.
13. Every state should undertake an assessment of the progress of this work in its area once in every three months, keeping in mind all the time that the time-bound programme must be completed in 7 years.

As I conclude my address, memories again from the Gandhian era flood into my mind. Mahatma Gandhi was perhaps the greatest adult educationist in history. He brought knowledge and enlightenment to more millions of people on almost every aspect of life than any other teacher. He took up one vital issue after another, affecting the life of the people and through talks, explanations, exhortations and writings in regard to these issues, he taught millions of people politics, economics, social ethics and disciplines of public conduct. The entire mass of our people stirred from one end of India to the other. The biggest achievement of the Gandhian constructive programmes was this astonishing awakening of the masses of India and particularly of the women. Religion, politics, economics and the values of citizenship were never the same after Gandhi as before Gandhi. No one has yet assessed the magnitude of what Gandhiji accomplished in this manner for India and mankind. But for us the most fascinating thought is that, all this was achieved out-side formal education. Some one must now at least study this historic phenomenon which shed its light over the whole of India for a generation. Let us be sure that not one of these fundamental achievements has been lost or can be lost. They are still in the soil of India and it is because of them, knowingly, or unknowingly we are able to do much of what we are doing today.

And now in conclusion, may I say that I have said nothing new. In fact, I wonder if there is anything new, any one can say on this subject. It is a very old one and all its implications are clear as day light. We do not lack information or data. We have a surfeit of them. The only issue is what to do. I have indicated what might be the answer. The one thing I would stress yet once more with all my strength is that illiteracy and poverty are twins born from the same womb of our distorted history. Literacy work must become life-centered and the eradication of poverty must become literacy-based.

SOME PERSPECTIVES ON NON-FORMAL EDUCATION

J. P. NAIK

I am grateful to the Indian Adult Education Association, and particularly to its President, Dr. Malcolm S. Adiseshiah, for inviting me to deliver the Zakir Husain Memorial Lecture this year. It is a great privilege of which I shall always feel proud, especially because I was lucky enough to have known and worked close to Zakirsab for over 25 years. I am not sure, however, that I deserve this honour ; and I should be pardoned if what I say is not worthy of the great philosopher and educationist after whom these lectures are named.

I shall speak on *Some Perspectives on Non-Formal Education in India*. Non-formal education, as you are all aware, is the latest arrival on the Indian educational scene where new arrivals are by no means infrequent. As generally happens in the case of all 'new' arrivals, it is having a mixed reception and has already begun to mean many things to many groups and individuals. In a situation of this type, I thought that it would be an advantage to set down, somewhat comprehensively, the different perspectives on the programme in the Indian situation. This will help to clarify its basic assumptions and concepts, methodologies of organization, and potentials and limitation.

Three Channels of Education

Let me begin with a brief comment on the three channels of education : Formal, Non-Formal and Incidental.

"Formal" education is easiest to define : it means the education imparted in the formal system of education organized and supported by the State. It is equally easy to define

“incidental” education which means all that one learns as a concomitant of growing up in a society. For instance, a child learns body control, language, social etiquette and manners or acquires a value system while growing up in his home. This learning process is continued outside the home as well as in later life when he learns from his contacts with his playmates, peers, friends or co-workers, participates in social activities and programmes, enters upon a career, marries and brings up children, travels, plays or fights. Incidental education is, therefore, entirely dependent on the home and the society which are educational institutions in themselves. But it is not specifically organized like formal education and is just what ‘happens’ to an individual who lives. ‘Non-formal’ education is, therefore to be distinguished from formal education on the one hand and incidental education on the other. It differs from formal education in the sense that it takes place *outside* the formal school system (although this characteristic is shared by incidental education as well). It also differs from incidental education in that it is organized (which incidental education is not). I am not happy with the word ‘non-formal’, partly because it is a negative phrase (all negative definitions are always unsatisfactory), and partly because it would even cover incidental education (which also is not formal). But the wisdom of the English language has decided to use the simplified expression “non-formal education” to stand for a more precise but awkward expression : ‘non-formal and non-incidental education’ I acquiesce in and accept the usage for the convenience it provides, and especially because I have no better alternative to suggest.

Definitions are a tricky affair ; and one is often compelled to modify them even as they are being formulated. I find myself in the same predicament and must warn that these three categories are not totally exclusive of each other. For instance, there could be channels of non-formal education within the formal system itself (e.g., correspondence education or extra-mural activities of universities). Sometimes, the formal system utilizes the channels of non-formal education to fortify or

supplement its own programmes (e.g., use of radio or TV for school education). Moreover, every school is a community of a kind and a good deal of incidental education always goes on within the school itself. Not infrequently, the school itself becomes a formal community (e.g., a university campus where teachers and students live together) and the incidental education which such a community provides becomes even more important and effective than what happens in its classrooms. Similarly, the line between non-formal education (which is organized but outside the formal school) and incidental education (which is also outside the formal school but unorganized) is not always easy to draw. For instance, the way in which a girl learns home-craft and child-rearing or a son learns the craft of his father, or a young man learns music by becoming the student of a reputed singer, is not just incidental education: there is a strong social tradition behind it which compels it to happen and a good deal of organized effort. Such forms of incidental education are, therefore, almost non-formal or semi-formal if we so choose to designate them. But such overlap apart, it is usually no problem to distinguish between formal, non-formal and incidental education and to deal with them as distinct entities.

Before concluding this definitional discussion I would like to clarify two issues. The total educational process which a society needs must include *all* the three channels of education—formal, non-formal and incidental, and Education of a society, I would prefer to call it 'Education' with a capital 'E', is the total integrated effect of *all* the three channels, *each* of which has its own distinctive role to play. I must also emphasize that *every* individual receives his education in *all* the three channels; and although the relative quantum and significance of each of these channels in one's life may vary from individual to individual, it is essential for every individual to expose himself to all the three channels for a complete education. In a situation of this type, it is wrong to indulge in the amateurish exercise of denigrating one channel or exalting another. Each channel has its own strengths and weaknesses and its own potential and limitations; and what we should be most concer-

ned with is to make the best use of every channel, socially as well as individually.

A Brief Historical Perspective

I began by saying that non-formal education was the latest arrival on the Indian educational scene. What I meant was that Indian educationists have started talking of non-formal education only very recently. I did not mean that non-formal education was new to India. In fact, both non-formal and incidental education are extremely old and if anything, it is formal education that arrived last on the educational scene in India, as in every other country. To set the perspectives right, therefore, it is essential to take a bird's eye-view of their origin and development.

In the very simple primitive tribal societies that we had in India at the dawn of civilization, incidental education was the only known or available channel. Children and youth learnt by living and participating in the activities of the home and society. It was not education *for* living but education *through* living; and there was no difference between the process of socialization and education.

Gradually, as the quantum of available knowledge began to increase and the need for specialised skills began to grow, some persons began to specialize in certain skills (e.g., men specialized in fighting, fishing, hunting or medicine and women specialized in cooking, agriculture, child-care and mid-wifery). This led to forms of education which stand mid-way between incidental and non-formal education, e.g., individual children or young persons learning essential skills through apprenticeship to a member of the family or some other suitable person outside it. Later on, some regular forms of non-formal education also came to be organized, e.g., a *Ghotul* for young persons among the Muria Gonds. These were not formal schools but they did perform certain specific educational functions which neither the home nor the society did. At this stage of development, therefore, the formal school had not yet been born ; and

education merely consisted of these incidental, semi-non-formal (or early non-formal) channels.*

Even in the ancient period the society in India grew in size, became more complex, developed a fairly high degree of specialization, and gathered a considerable amount of knowledge the rate of growth of which was also accelerated to some extent. There was thus a need to create selected special groups as well as institutions for undertaking the responsibility to preserve, increase and disseminate the accumulated knowledge of the people. The literary castes thus came into existence and the formal school was born and grew slowly to a respectable size. Ancient India was in fact known for its universities which attracted students from all over the world as then known. The same trend continued in the middle ages as well; and when the Muslims came, their own system of formal education was added to the earlier Hindu institutions. By the end of the nineteenth century, a formal system of education, mostly supported by the community had come into existence in all parts of the country. Side by side, some change had taken place in incidental and non-formal systems of education as well. The quality of incidental education necessarily depends upon the quality of life in the society; and as society changed to grow to higher levels, incidental education also underwent a corresponding change. The institutions of non-formal education also grew in variety and sophistication over the years. Two of these changes deserve special notice. As the religion-based formal system of higher learning was ascriptive and severely limited in access, the need to spread the message of religion among the masses was keenly felt. This led to the creation of the great oral tradition in India which spread to all the nooks and corners of the country and which, in a mutilated form, survives even to this day. The second was the rise of *Akhdas* or insti-

*In fact, in many tribal communities of India, where a school has not yet been established, these are still the only forms of education available; and even where the modern school has been opened, so few tribal children avail themselves of it, that it would be a truism to say that the bulk of the tribal people are educated, even today, through incidental, semi-formal or early non-formal channels. The same would also be true of quite a proportion children in rural areas who never enter schools.

tutions of physical education and military training which trained young men, irrespective of caste, to a career in the army.

Some aspects of the educational situation at the end of the eighteenth century deserve special notice. The access to the formal system of education was ascriptive, mostly based on birth, and restricted to the literary and priestly castes or classes, well-to-do landlords, moneylenders and traders. The formal schools of higher learning had very limited access and imparted a religion-based education. They conferred no economic or political rewards worth the name; but their students and teachers were highly respected in society. The formal elementary schools were utilitarian, taught the three R's and wherever necessary, the court language, and qualified some of their students for jobs under government or outside where such skills were in demand. Women hardly went to schools and even among men, the percentage of literacy was only about six. With this severe limitation on the coverage of the formal system of education, it goes without saying that most people were educated through non-formal or incidental channels. It must be pointed out, however, that this difference did not place the masses of people at any great disadvantage in comparison with the classes who received formal education. For one thing, the formal system of education had become stagnant while that of non-formal education was still vibrant. The social, economic and political rewards which the formal system offered were not large and the differences in life-styles of the educated and the uneducated were not very conspicuous. What is even more important, vertical mobility lay, not through the ascriptive channels of formal education, but through the more democratic non-formal channels of military training and a career in the army.

This situation has undergone an unbelievable change during the last 175 years. For instance, a modern system of formal education has been created and has grown to tremendous dimensions. It now has about 700,000 institutions of various types, about 100 million students, a teaching force of more than

three million, and a total expenditure of about Rs. 25,000 million. The formal system of elementary education is not very different from that of the eighteenth century. But modern secondary and higher education is totally different from the old indigenous schools of higher learning and has enabled us to contribute to as well as to share all the growing knowledge in the world. It has modernized our elite groups that avail themselves of this education and made them citizens of an international community. It has also enabled us to create a large force of highly trained scientific and technological man-power which ranks third in the world in size and which apart from helping to modernize our economy and administration, is also helping several other developing countries to modernize themselves. The system has been given a monopoly to certify intellectual achievements and it has become a ladder which helps the ambitious to climb to privilege because it is only through successful performance within it that one can rise to important positions in any walk of life. As its portals have been thrown open to all individuals irrespective of caste, sex, or religion, it has also become the most significant channel of vertical mobility. It may also be stated that, during this period, several new channels of non-formal education have also been developed. For instance, a modern press has been built up in the country, both in English and in the Indian languages. Libraries have been established and are progressively being developed. The radio has now reached every village and a network of TV is being gradually spread. The programmes of agricultural extension and of family planning are examples of modern non-formal channels developed for the masses.

All this is good and commendable no doubt. But the system has several weaknesses as well, both quantitative and qualitative. Among its qualitative weaknesses, mention may be made of its divorce from work and development so that it has no strong relationship either with productivity or with national needs and aspirations. On the quantitative side, the main weakness of the system is that its benefits reach only a minority of the population. Secondary and higher education, which alone enable a person to avail himself of the economic and political

rewards which the system provides, are being availed of by only 10 per cent of the age-group 15-25 ; and of these, as many as eight come from the upper 20 per cent of the population and only as few as two come from the lower 80 per cent of the population. The very fact that 60 per cent of the population above the age of 10 is still illiterate shows that even the meagre benefits of primary education are available only to a minority. The same is true of the modern channels of non-formal education as well. Press and the library system have no meaning for the illiterate masses. The educational content of the radio is very limited and the TV is still available only to the metropolitan elite. Even agricultural extension mostly benefits the rich farmers.

It is, therefore, no surprise that, even today, the vast masses of people are still educated through the traditional forms of non-formal and incidental education. It is indeed an eye-opener to find how little has been the impact of the formal system of education on the life of the masses, especially in the rural areas. A survey I conducted from this point of view in a small group of villages showed that the working members of the society had learnt most of the useful skills they had acquired through non-formal and incidental education. For instance, all women had learnt home-making and child-care outside the school system ; all agriculturists had learnt their profession by actual doing and the same was true of all artisans such as barbers, tailors, washermen, *dais*, tanners, carpenters, blacksmiths, or bricklayers. In fact, the only educated people in this community were the government servants and a few well-to-do 'leaders' who exploited the people. The results of this sad situation are obvious. The masses have remained poor, traditional and feudal mainly because they are still being educated through the outdated incidental and non-formal educational channels of the eighteenth century which gives them their value systems, their superstitious beliefs, their limited and often obsolete knowledge and their traditional limited skills. This is why our society, as a whole, is changing so slowly, inspite of the fairly rapid modernization of the elite groups. A large chasm has thus developed between the well-to-do, modernized elite groups

which are the almost exclusive beneficiaries of the modern system of formal education as well as of the modern channels of non-formal education, and the poor and traditional masses who are still receiving their education through the old traditional forms of non-formal and incidental education. This chasm is far wider than that which separated the educated elite from the uneducated masses at the end of the eighteenth century for the simple reason that the economic, political and social rewards of the modern educational system are far greater than those of the formal educational system of the eighteenth century and the introduction of modern science and technology has created a tremendous difference between the lifestyles of the well-to-do educated individuals and those of the poor, uneducated masses.

Challenges for Non-Formal Education

It is at this point in our educational development that we have begun to discuss the concept and programmes of non-formal education. The challenges for the system of non-formal education which we propose to evolve over the next few years must, therefore, arise from an analysis of this very situation. Let me, for purpose of today's discussion, mention two of these major challenges.

(1) Our historical analysis has shown that the central issue in Indian society is the education and standard of living of the masses. There is no problem about the small crust of the ruling classes at the top : they have always had the best of education, controlled the bulk of the resources of the country and enjoyed social, economic and political privileges. But the masses of this country have always remained poor, unorganized and weak and have been educated almost exclusively through traditional non-formal and incidental channels. If we have to create an egalitarian society, the masses must be educated and organized so that they have their due share of power and are enabled to improve their standard of living. This is the basis challenge in national education and development.

(2) In spite of all its positive features and advantages, the system of formal education also suffers from several major weaknesses. For instance, as mentioned earlier it is divorced from work and development and has grown into a huge monolithic structure with a tremendous inertia and emphasis on rigidity and conformity. It, therefore, resists all attempts at change like the new toy which has recently come into the market. It is a beautiful rectangular box with an electric switch which is turned 'off'. The moment you turn it 'on' musical sounds begin to emerge from the box, its lid opens, a hand comes out, turns the switch 'off' and gets into the box, the lid is closed, the music ceases and we again go back to square one. The transformation of this education system into an elastic and dynamic one, built round work and development is yet another challenge which we have to face.

A close examination of even these two basic challenges will show that the programmes of non-formal education have an important role to play in educational and social transformation which must go hand in hand. I affirm this because non-formal education can help us to :

- educate the masses, conscientize and organize them so that they are enabled to improve their standards of living ;
- make work and development the core of the educational process and speed up national progress ;
- extend the benefits of the formal system of education to all the people and especially to those who do not benefit therefrom at present ;
- help to improve the formal system of education itself and make it elastic and dynamic ; and
- assist in raising the level and quality of incidental education as well.

I shall now proceed to discuss each of these programmes in some detail.

Modernization of Non-Formal Education

When educationists and administrators discuss the problem of developing non-formal education programmes for the masses, I wonder if they realize that the masses have had nothing but non-formal education throughout the centuries. What they need, therefore, is not more non-formal education of the traditional type, but the modernization of their non-formal education programmes. At the beginning of the nineteenth century, both the formal education system meant for the select few, as well as the non-formal education programmes meant for the masses, were traditional. During the last 175 years, the formal system of education for the select few was thoroughly modernized which has, in its turn, modernized the elite groups. On the other hand, the non-formal education programmes meant for the people continue to be traditional and consequently, the masses still continue to live the same traditional life of the old days. What we need, therefore, is not just more of *any* non-formal education, but the *large scale* development of *modern* programmes of non-formal education. It is both a qualitative and a quantitative programme and its qualitative aspects are far more significant than the quantitative ones.

The traditional programmes of non-formal education have three main weaknesses. They are intended to continue the status quo and to educate every individual to his status in society. They are also not based on science and technology so that they tend to perpetuate outmoded technologies of the earlier days, obsolete beliefs and superstitions, and resistance to change. Besides, both the teachers and students in these programmes are the illiterate traditional individuals from the masses themselves who perform the task of imparting their knowledge, skills and beliefs to one another. This is therefore, a game where the blind leads the blind. If these programmes are to be modernized, three main changes must take place. To begin with, these programmes of non-formal education will have to be developed by persons educated in the formal system who can act as agents of modernization. Secondly, they must have a large basic content of science and technology. It is science that will help to

dispel fear, to eradicate superstition, to inhibit fatalism and to increase self-reliance. It is modern technology that will help the people to increase their productivity and to raise their standard of living. Thirdly, the object of these new programmes is not to train each individual to his own status in society but to conscientize him, to make him aware of himself, of his proper role and status in society, of the entire social reality, and of the manner in which it can be transformed to create a new egalitarian order. It is really education for liberation and not education for perpetuation of bondage. The work and philosophy of Paolo Frerrie is very relevant in this context. So are the teachings of Mahatma Gandhi who emphasized that political education must be an integral part of the education of adults and that it must give them the wisdom and the courage to fight all injustice and wrongs at any cost through the peaceful and non-violent methods of satyagraha. These are the new elements that the traditional forms of non-formal education lack and which the modernized form of non-formal education must provide.

Work and Development : The Core of Non-Formal Education Programmes

It is equally important to build the modern programmes of non-formal education round work and development. It is unfortunate that our formal system of education was originally intended for the literary castes of India who look down upon manual labour and were never involved in any processes of direct production. Consequently, it was totally divorced from work and this divorce still continues to dominate the system. Mahatma Gandhi highlighted this weakness of the system and pointed out that work and education are integrally related and that education can be best conveyed through the medium of work. This is why he enunciated his scheme of basic education where he tried to introduce work in the formal school system. The problem in non-formal education is somewhat different. (Here, we are not required to put work into education (because most of the educands in non-formal education are already working) but to build education round work (because what these persons need is education which will give a meaning to

the work that they are doing and will help to improve their efficiency and earnings). But whether we introduce work in the formal school system or build education round work in the non-formal education programmes, the basic principle is the same Gandhian maxim: work without education is a mechanical drudgery and education without work is a perpetuation of parasitism, exploitation and violence. All non-formal education programmes must, therefore, be integrally related to some form or other of socially useful productive work.

In the same way, non-formal education must also be integrated with development in the sense that it must involve the people actively in programmes of social and national development. Unfortunately we have taken a managerial view of development so far, i.e., development is something which the people receive passively and which is created for them by some other managerial groups such as the bureaucracy or the voluntary social workers. It is not denied that change agents have a significant role to play in social transformation. But the transformation never takes place until the people themselves are deeply involved in the change process. Modern programmes of non-formal education must, therefore, involve the people themselves actively in bringing about social changes. In fact, their basic aim is to change people rather than deliver some pre-determined targets. They should, therefore, be closely related to all programmes of change and development. In fact, a good motto for non-formal education is: education through reconstruction and reconstruction through education. On the one hand, non-formal education accelerates and effectively implements the programmes of development; on the other hand, it is development which provides the materials for non-formal education to grow to its proper stature and to achieve its objectives.

Extending the Coverage of the Formal System of Education

I have pointed out that the coverage of the formal system of education is very limited: it excludes all workers by its in-

sistence on full-time attendance ; and it also excludes all poor persons who cannot afford the expenditure it involves. Since the costs of formal education are high, we do not have the resources to bring all persons under the formal system of education. It is not also a question of money only, because formal education, which posits a dichotomy between work and education, can never bring all workers to school or provide life-long education. It is in this predicament that non-formal education has a major role to play. At the preschool stage, it is possible to organize community resources in women, money and materials and to provide non-formal preschool education to a far larger proportion of children than we can ever hope to do on the traditional formal lines. At the elementary stage, non-formal approaches can provide good part-time education to those children who drop out of schools because they are required to work in or outside the family. It can thus reduce wastage and help us to provide universal education to all children in the age-group 6-14 at a cost which we can afford. In the age-group 15-25, only about 10 per cent are enrolled in secondary schools and colleges. The remaining 90 per cent are really the nation and they have no access to any formal education at present. Programmes of non-formal education can involve all of them in achieving personal growth and helping national progress. Among the adults, non-formal education can help to liquidate illiteracy, to provide citizenship education, and to promote national development through personal and group involvement. In short, it is only non-formal education that can help us to surmount the inherent limitations of the formal system and provide life-long education for all. These programmes are now so well-known and so generally accepted that I need not elaborate them any further.

Qualitative Improvement of Formal Education

There is a good deal of qualitative improvement needed in formal education. But one does not know how to bring it about. The system has grown to such huge dimensions and has become such a rigid monolithic structure that an immense amount of energy and money is needed to bring about the

desired change. We do not seem to have this energy, nor can we afford this cost even now. As time passes, the size and rigidity of the system grows so that the cost and energy required to change the system increases, even as our ability to attempt it appears to become less and less.

Non-formal education, if developed properly and on a large scale, can provide a solution to this intricate problem. The development of modern programmes of non-formal education, where we start almost from scratch, can be planned on the principles of elasticity and dynamism. In fact, they have no chance of success unless they are so planned. Non-formal education will have to be interesting and useful to the students because we cannot have captive audiences. It will have to be built round work because the educands are mostly workers and it will have to involve its students in development because it is directed to bring about social change. Its methods of teaching will have to be dynamic and its materials significantly produced in the languages of the people. In other words, non-formal education will give us a good opportunity to bring about the desired educational reforms; and it will be possible to bring them about because of the newness and comparatively small scale of the programme in the early years. But once this experience is gained, it can be of immense use in changing the formal education system itself. In 1921, Gandhiji advised teachers and students to leave the official system of education and to establish a national system of education outside it so that eventually, the entire official system could be nationalized. The basic idea was that the movement for the reform of the official education system should begin outside it, and should be developed to such a magnitude, that it can be used to capture and reform the official system itself. This effort did not succeed for several reasons, the principal one being that the national schools were too few to make any tangible impact on the society. But if we learn from the errors of this experiment and develop non-formal education in a big way, there is no doubt that we shall be training the personnel and gaining the valuable experience which will enable us to reform the formal system of education itself in the long run.

Raising the Level of Incidental Education

The level of incidental education depends on that of the society or the home which provides it. For instance the incidental education which a child gets in a city like Delhi is infinitely different than what a child born in the forests of Orissa can have. Similarly, the incidental education which a child of an IAS officer gets at home is vastly different from that of a child born in family of a landless agricultural labourer in the same place. But incidental education has an important role to play especially in the inculcation of values. Its significance is specially great at the preschool stage because it is almost the only education which a child then has, and if the Freudians are to be believed, the basic contours of an individual's personality are already formed when he is about six years old. There is no doubt, therefore, that we must strive to improve the incidental education which the children of the masses get. In this, the programmes of non-formal education of the parents and raising the standard of living of the people will have a major role to play.

Essential Conditions for Success

I have so far described the principal programmes of non-formal education which we must develop in the near future to correct the weaknesses of the formal system of education, to educate and organize the masses and to improve their standard of living and ultimately to create an egalitarian social order. Before I close, I shall say a few words about the conditions essential for the success of these programmes.

The first is a question of basic philosophy : our faith in the common man of India and his potential. To many a person from the intelligentsia, the poor in India appear to be an unnecessary evil, an irrelevance to be thrown out, an inconvenient presence which is better put out of sight and out of mind and a pest that is better not born. No programme of non-formal education for the masses can grow out of such an attitude. We must, therefore, develop, not only compassion for, but also a faith in the poor man of India. He is really the nation and

the future of the country depends more upon him than upon the minority of the educated elite. The more widespread this faith becomes, the greater is the possibility of success in programmes of non-formal education.

The second is a question of status and quality. Non-formal education should not be looked upon as education for other people's children or for people of no significance. It has to be given a status equivalent to that of formal education, if not better. This can happen only if its quality is maintained at the highest level, if proper bridges are built between it and the formal system of education at appropriate points, and the economic, political and social rewards of non-formal education are made comparable to those of the formal system.

The third is a question of scale : modern programmes of non-formal education are meant for the vast majority of our people. They will, therefore, have to be developed in a very big way and their coverage would be even larger than that of the formal system. Running a few schools or centres, however good, will not serve the purpose ; and if an effective dent is to be made on the situation, programmes of non-formal education would have to be developed on a very massive scale.

The fourth is a question of investment. It will not be possible to develop the programmes of non-formal education on the large scale required and to maintain their quality unless the nation is prepared to invest in them on an equally massive scale. It may not be possible to raise all the resources required for non-formal education if the formal system of education is also allowed simultaneously to grow and consume additional resources. In such an eventuality, there should be no hesitation to go slow with the further extension of the formal system of education (because more than 60 per cent of the resources invested therein go down the drain) and to divert the bulk of additional resources available to the development of the programmes of non-formal education.

The fifth and the last question refers to the investment of human resources. Money is never the most important investment in education. What the learners invest therein, a large proportion of their entire life, is a priceless and unparalleled investment. What they get out of it will depend very largely on the extent to which we invest the time of our most talented and committed persons for the development of educational programmes. The success and quality of the programmes of non-formal education will, therefore, ultimately depend upon the extent to which our talented young men and women find it worthwhile to commit themselves to its development in the service of the poor man of India.

These observations mainly show what the proper development of non-formal education needs, and what we should do for it. But let me conclude by referring to one thing which we should not do, viz., to treat it as cavalierly as we have treated all its precursors on the educational scene. Let us not forget that the education of the poor masses of India has been a problem that has engrossed us for nearly a hundred years. From this point of view, Dadabhai Naoroji put forward, as early as in 1881, a programme of universal primary education of four years duration for all children. We accepted it. We then found it to be too plebeian and decided to provide good education to all children till they reach the age of 14 years. Even this was found to be unsatisfactory and some of us are already talking of amending the Constitution to provide universal education till the age of 16 or even 18. But while our objective are soaring high on paper, we will not have provided even four years education to all children by 1981 when the Centenary of Dadabhai Naoroji's demand may have to be celebrated. The second programme of mass education, viz., the universal education of adults, was also started very early. In the thirties of this century, people were not ashamed to call it literacy and to talk of liquidation of the illiteracy of the masses. But we soon began to think that mere literacy was not enough, and decided to develop programmes of adult education. Having soon discovered that adult education cannot be divorced from the attempt to bring about social change, we

rechristened it as social education ; and to familiarize the people with the new terminology, used the expression 'Social (Adult) Education' as a transitional measure. For a time, we also toyed with the concepts of 'functional literacy' and 'fundamental education'. We have now forgotten all this and have suddenly discovered non-formal education ; and as a transitional measure, we have already set up a Directorate of Non-Formal (Adult) Education. While I do not doubt the conceptual progress involved in all this transition from 'literacy' to 'non-formal education' I cannot help pointing out that very little has happened on the ground during all these years, that 60 per cent of our people are still illiterate and that their absolute numbers are still increasing.

The programmes of mass education in India, be they in the field of universal elementary education or universal adult education, have generally languished in spite of all the talk in their favour and in spite of all the conceptual sophistication achieved. The reason is lack of adequate action : none of these programmes have been supported, throughout all these years, by deep political commitment, investment of adequate resources, and organization of a mass movement to implement them on an adequate scale. In dealing with this problem, therefore, one does not appear like a mature and responsible adult who sticks to his programme till he succeeds. On the other hand, one appears like a child who plays with a toy for a while, only to throw it away for another with a good colour and still later for yet another with a more dazzling colour combination. What is needed is a radical change in these intransigent attitudes. The deep-seated and intractable problems of mass poverty, ignorance and ill-health cannot be solved unless there is a firm political commitment, a massive investment of resources, and dedicated efforts of the intelligentsia. This is a task for all of us, the intelligentsia as well as the political leadership : and let me hope and pray that, now at least, we would all rise to the occasion.

THE VISION OF A LEARNING SOCIETY

ANIL BORDIA

The Cultural Environment

Burinda is a village about 23 miles from Osian, a tehsil of Jodhpur District in Rajasthan. It belongs to a hub of three villages, all huddled together. The names of the other two villages are Mehdu Kalan and Mehdu Khurd.

Burinda and Mehdu have some ancient relics of historical importance. For instance there is a small temple, apparently of the times when the temples of Mount Abu and Ranakpur were constructed. In the field nearby a huge slab of stone has some Jain inscriptions in Pali engraved on it. The streets are strewn with numerous little *moortis*. Three figures, wearing Rajasthan folk attire, are obviously the Rajasthani version of Ram, Sita and Laxman.

This cluster of villages, like almost all others in this area have a number of Muslim singers, who sing folk tunes, the resemblance of which with the *ragas* is easily discernible. The theme of songs is the story of Ramadev, a Rajasthani adaptation of Ramayana.

The land is completely dry, vegetation non-existent, even drinking water is scarce. There is primary school in Burinda, and a sub-school in Mehdu Kalan. The school, however, generally remain closed.

Excerpt from a project proposal sent by an institution of folk culture.

Every village of India has its own symbols and images which

speak of the cultural heritage and dysfunctionality of the official institutions. Every village has its drawings and designs—drawn with petals, powdered rice, clay or cowdung; drawn on floors, walls or cloth, evidence of discriminating taste in design and colour, symbols of celebration and community life. Every village has its ballads, and the tales of devotion, valour and romance. These are the means by which a great tradition of learning is passed on from generation to generation, tradition which has withstood the vicissitudes of political conquests, rapaciousness of the rulers and adversities of climate.

Side by side with a rich and living culture, an Indian village presents the picture of depleted environment, economic stagnation and social tensions created by widening gap between the prosperous peasants and money lenders on one hand, and the mass of small cultivators and agricultural labourers on the other. Hunger and exploitation are as much a part of the rural scene now as ever before. The various institutional improvisations designed by Government—panchayati raj, cooperative societies, school—have touched only a fringe of the population. Even the folk cultural media has provided to a vast majority of the people opportunities of listening without speaking and enjoying without understanding.

Can this society, which unquestioningly accepts almost everything, be regenerated through its own inner assets? Can articulate speech take the place of silence? Can a new corporate life be shaped? Can peoples' organisations be created to deter the oppressive element and to enable the oppressed to plan their own destinies and to strive for their realisation? These are the questions, and the directions, which must engage all persons thinking and discussing about the country's future.

Objectives

Education and learning provide the means for creation of a new social order. Instruments of incidental learning have existed in our country since the dawn of civilization; the formal system of education is providing at least five years of elementary

education to about 5 million children every year; the various extension agencies and the mass media complement the other educational activities. There is an effort now to strengthen the school system, particularly at the elementary stage; to extend, through the National Adult Education Programme, educational facilities, including literacy, to nearly 100 million youth and adults; a new look is being given to the scope and working of Akashvani and Doordarshan; and the various development efforts in the rural areas are being integrated with focus on provision of employment and minimum needs to the rural poor. It would be naive to assume that all these plans will materialise; but we do have a situation where educational coverage is expanding and huge investments are being made in variety of development programmes. And there is a greater awareness to link education with development. It should be realised that without creation of a comprehensive learning system, which includes reinforcement of literacy but goes much beyond it, the fruits of educational endeavour would remain sour. Besides, we owe it to our history, and to our sense of Indianness, that we build a society based on life-long learning, cultural harmony and scientific outlook.

Let me try to spell out the objectives more clearly.

(a) Awakening, mobilising and organising the people

This is the fundamental objective as well as the basic method. Education is that which awakens. If we hope to create a milieu in which every member of the community has a contribution to make and a future to look to, the basic reorganization of village life shall have to be attempted. Such programmes can range from sports and cultural activities on the one hand to formation of cooperative societies and rural communes on the other. This reorganisation shall have to be based on subjects which directly affect the lives of the people. The most significant of them is agrarian restructuring, on which depends release of constructive energies of the people, and purposeful and coordinated agricultural development. The village organisation shall, therefore, have to force the pace

of land reforms, and take up other measures which help the poorer sections, and the women, to come to their own. The essential thing is to create situations where women and the poorest sections of society hold discussions and raise questions.

(b) *Understanding of nationally accepted values*

Widening of the communication circuit, through literacy or mass media, can subject the community to manipulation. We must guard against this danger, and plan for it. Besides, for national development and for well being of the village populace, it is necessary to knit from the very outset certain nationally cherished goals into the whole fabric of the learning system.

These goals would include :

- national and social integration while respecting diversity ;
- respect for all religions and fostering of the common cultural heritage;
- democracy, freedom and self-reliance ;
- equality of opportunity and status and freedom from exploitation ;
- inculcation of scientific temper and fight against blind belief and superstition;
- protection of the rights of children, and observance of small family norm ; and
- environmental conservation and enrichment.

Learning in a democratic society presupposes freedom of choice and absence of imposition. Therefore, in the name of nationally held objectives, the people of the country, particularly in the rural areas, should not be treated to programmes which do not seem of interest or relevance to them. Such subjects should first be discussed, related to the local and immediate situation of the learners and its relationship established with the survival and progress of the country. At the

same time, effort must be made to prevent unscrupulous elements from endangering country's integrity or the democratic polity.

Appreciation of interdependence between work and learning

Like speech and mind, work is a distinguishing characteristic of the *homo sapiens*. However, generally work is not related to conscious analytical thought, and tends to be mechanical and muscular. Integration of work with thought can impart dignity and fruitfulness to work. This is both a matter of acquisition of skills and information as well as of exploration of new methods and practices. In precise terms, this would include :

- (i) inculcation of an understanding of the process of work ;
- (ii) analysis of the physical phenomenon, particularly to the extent it affects work ;
- (iii) application of science and suitable technology to work practices ;
- (iv) learning of new skills, both for the existing work and for occupational diversification ; and
- (v) information and capability for securing the necessary inputs to give practical shape to things learnt.

However, it should be noted that the poor often work for others, they sell labour. Learning of new skills and a different way of looking at their work would be difficult unless wages are related to it and there is a degree of freedom to the workers to develop their own work norms.

(d) Using literacy

Literacy includes speaking, reading, writing and arithmetic. Each one of these is important, but reading speaking are more important. In the rural areas, these are the principal means of communication and assertion. Like practically all skills, literacy can be maintained and improved only by regular use. This is possible only if literacy is made a part of work, of recreation,

of religious observances and of discharge of family responsibilities. Like work, literacy should be accompanied by an exercise of mind, for literacy gives shape to thought, and gives it steps and articulation. Practice of literacy should also open up opportunities of personal progress, an aspect of which is the possibility to enter the formal stream of education.

Communication Choices

The selection of means of communication must be governed by the choice of the kind of future society we wish to create. In societies where emphasis is on consumption—of goods, energy or resources—the emphasis is on more sophisticated technology, faster and faster speed. In such a society knowledge and learning become a part of an industrial culture with a constant fear of obsolescence. Educational institutions become indistinguishable from commercial corporations, learning becomes dependent on high electronic technology, expensive, repetitive and centralised. Although somewhat oversimplified, this is the 'Knowledge Society' of Buckminster Fuller and Herman Kahn.

This is not the occasion to describe the preferred future for our country. Suffice it to say that our emphasis has to be on our cultural heritage, on human development, on conservation of resources, and on intermediate technology. Our choice has to be governed by this unique situation, a situation which is similar to several developing societies, but in which no Western models would do. In the context of communication choices what are the characteristics of our situation? Firstly, limited material resources and the variety of demands on them. The choices are difficult. Whether to invest on greater food production, on energy, on industrial development or on sectors such as health and family planning, and education. Secondly, the considerations of the educational objectives, as spelt out above—with emphasis on human contact and social development, as against mere communication of information and inculcation of skills. Thirdly, the backwardness of the technological base. While we are capable of attaining the highest

standards in science and technology, the general level of the people is such that introduction of a technologically sophisticated media can create innumerable problems of use and maintenance. Fourthly, the extent folk and traditional means of communication. These are the means through which centuries old oral tradition of learning is sustained, which is what makes India an educated country in spite of high rate of illiteracy. Fifthly, our commitment to decentralisation, self-reliance and autonomy. This is an imperative of our democratic system and faith in the people. And finally, the management constraints. The choice of the means of communication has to take into account the difficulties inherent in introduction of a system which is based on a radical innovation in the management system.

Ours, therefore, cannot be the electronic option, nor is it possible to visualise the various options in isolation. The vision of learning society must be served by media which has the propensity of itself becoming the message—the printed word, which is germinal for creation of a literate society; the folk media, which could generate a new cultural climate; group action and discussion, which must lead to a more aware and less unequal society; and audio-visual machines, which help in reducing distances and in resolving, through the method of science, the mysteries of the human body, the environment and the universe. These various media must form a symbiotic package leading to greater communication and achievement by all persons of their highest potential, a vision of a corporate, humane and cultured society.

The Printed Word

From the point of view of the freedom of choice it offers to the learners, the minimum manipulation possible through it, and management convenience, the printed word is the most important media available in the Indian situation. There is already a considerable amount of printed material which could be suitable for persons who have only recently acquired literacy skills. Although some of the materials is excellent, much of it

has middle class and urban orientations. The content of the material is often paternalistic and attempts to treat the readers as uninformed and unintelligent mass who need to be rescued. Its language is generally remote from the spoken language of the people, and, unconsciously, it imposes the textbook language—treating the language of the people as ‘mere dialects.’ In this context, the relevance of the material has five aspects : first, it should be based on familiar and interesting subjects; second, it should relate to the problems experienced by the readers; third it should lead the readers to their progress, as envisaged by them; fourth, it should be of the cultural level of the readers; and fifth, it should be as close as possible to the language of the readers.

A great deal of thought needs to be given in regard to the writers to be involved and the content. To begin with, the following types of materials can be identified :

1. *The epics*—Under this rubric we are including the classical epics as well as folklore with widespread familiarity. It includes Ramayan and Mahabharat, the various recensions of which can be seen in practically all parts of the country. It includes Prabodh Chandrodai, which is staged and enjoyed in almost all the Eastern States; the stories of Andal and Mani Mekhlai, which is staged in various kuruvanjis in South India; the ballads of Alha Udai and Malushai which are read and recited in Central India and the Himalayan region respectively, Shahi Posh which forms part of *nach*, *nautanki*, *khyal* and various other folk forms of song and theatre, and of course the romances of Heer Ranjha, Laila Majnu, Dhola Maru etc., which are read and enjoyed in the northern States.

2. *Creative writing*—With the exception of writers like Prem Chand, Sharat Chatterjee, Tagori and Shivram Karanth most of our creative writing is urban middle class oriented. At the same time a real creative writer can immerse himself/herself in the culture of the people for whom he/she is to write. For example, a number of Indian writers have written feelingly

about Czechoslovakia, France and Mauritius. Certainly they can write for the new literates of the rural areas—as well as for the urban poor.

3. *Locally relevant literature*—With the help of competent writers, it should be possible to produce literature based on the history, heroes, geography, folklore etc. of a well-defined area. Such material would be in the language of the persons who would read it, and would use names and characters with which the readers are familiar. Books of this kind can be brought out in small editions and can be of great interest to the readers. Such material can be used for initiating discussion, or in accompaniment of cultural events. Systematic development of such locally based reading material can impart enormous strength to any programme aimed at widening the reading habit among the people.

4. *Commercial publications*—The publication industry has a right to bring out material which they visualise as of interest to the new literates. It has to be accepted that practically no regulatory mechanism is feasible for such publications. At present, they are either religious and obscurantist, or romantic thrillers or based on films and sex. A new entrant in this field are the comics, which initially arouse interest in reading but eventually impede reading habit. One may wish that such publications were not popular, but they are, and it is well to recognise that the rural youth would be as tempted to them as the urban are.

5. *Extension literature*—Government brings out vast quantities of material meant for extension and information. Most of this material is written and published without sufficient regard for the level of literacy, interest and reading practice of the persons who are expected to use it. This also applies to the various form and formats of application. It would be necessary to undertake a thorough review of all these materials in order to make them suitable for persons who have competence only in elementary literacy.

6. *Newspapers, magazines, posters etc.*—Ultimately we have to plan for local newspapers. (they could even be weeklies)

which would communicate information which would interest the readers (as against the dose handed out in the wall-papers published by Government or non-Government agencies). There is need for a really interesting illustrated magazine for neo-literates in practically all major languages of the country. This magazine again should not be a publicist for Government programmes, or a mere harangue on the various agricultural or health problems, but something really light and readable. Often magazines may be found to be of much greater interest than books. Well-prepared posters can be of immense interest to the villagers—whenever a poster is put up in a village it arouses keen interest in it and remains a subject of discussion and curiosity for quite a while.

Flok forms of Communication

The various folk arts are unquestioningly the most widespread media of communication in our country. The folk culture has retained a vitality in spite of the numerous influences which have affected its form and organization. These cultural forms are found in practically all parts of the country—and particularly in the rural areas they touch all sections of society. There are some special characteristics of our folk arts which can be recapitulated :

- (a) They are inseparable from work, learning, religion and environment.
- (b) Their orientations are not individualistic but cooperative, not personal but social.
- (c) Although they are often religious and devotional, they are seldom narrow or exclusive.
- (d) Although rooted in ancient times, they are dynamic in the sense that they can adapt themselves to changing social and cultural situations.
- (e) They are artistic and discriminating without being esoteric or expensive.
- (f) Although they differ from region to region they are

seldom local and often transcend linguistic and administrative boundaries.

- (g) These forms, whether religious, philosophic, spiritual or temporal, always succeed in establishing communication with the people, appropriately described as *tadatmyam*.
- (h) There is practically no place for literacy and science in folk forms of communication.

It is difficult to establish an inventory of the various folk forms of communication. They affect everyday lives of the rural people and engage most of their time during special occasions. A few significant forms are mentioned below:

- folklore
- folk theatre and dancing
- picturisation of stories
- katha and kirtan
- fairs and festivals
- puppetry

Many of these forms have already shown an enormous elasticity—either by natural adaptation over a period of time as in the case of Yakshaganas, or through creative adaptation as in the case of compilation of Rajasthani folklore by Vijaydan Detha (whose 14 volumes of *Batan-ri-Phulwari* is a monumental achievement), or as a result of a process of commercialisation, as in the case of Jatra. A systematic attempt can be made for secularisation, modernisation and alphabetisation in these media. For example along with the picturisation in Pabuji-ki-Pad or Kalamkari or Patwas, we can have stories of Panchtantra, even of struggle for independence (I am told that a Patwa family in Murshidabad has made pictures on the basis of Subash Bose and the Indian National Army). Puppetry and folk theatre lend themselves most naturally to utilisation

of modern themes. Floor drawings, variously called *muggu*, *rangoli*, *alpana*, which already depict varieties of symbols and stories can begin to include letters and words. Similarly the kirtan can be accompanied by distribution among the singers and the listeners of text. *Sankranti (Pongal)* festival can be accompanied by honouring good agriculturists or livestock breeders and simple learning themes can be introduced in the festivities. Indeed, practically all the folk festivals are linked with agricultural cycle; but this linkage has tended to get blurred and there is need to readjust the festival calendars. In an appropriate manner, elements of literacy can also be incorporated in these festivals.

A mention may be made here also of urban based theatre movement. Beginnings in this direction have been made in the big cities of Calcutta, Bombay and Delhi—as well as in some small towns here and there. There is a large number of young persons deeply committed both to theatre and to social development. Wisely and imaginatively directed, this can develop into a real movement and can make a valuable contribution, both in the rural and urban areas, to the entertainment and awakening of the people.

Group Action

Learning is generally a participative process, and so is living and working. One of the most effective means of learning and communication is group action. A small looking group action can influence remoulding of the rural society. It is, therefore, natural that group action should have a prominent place in the learning system. Considered as a means of learning, group action can have several manifestations. We shall however, confine ourselves to the following four:

Discussion—Discussion has the advantage of opening out an individual, it facilitates assertion, and in the process of verbal exchange imprecise ideas get crystallised and systematised. An aspect of discussion is questioning and enquiry, which is satisfying both for the enquirer and the person who answers enquiry. Initially, discussion has to be planned, particularly

in order that persons who generally remain silent speak up. Often discussion requires special motivation, e.g., an occasion to take decision regarding location of a new facility to be provided, or a catalyst such as a visiting government official or a political worker or a man of religion.

Social service—This has the advantage of creating a spirit of cooperation which gives to community life a real meaning. Such an activity can help in acquiring an understanding of the various aspects of planning on a small project. Besides, it promotes self-reliance. Social service accompanied by an understanding of the issues involved, should have an element of maintenance and follow-up. Like discussion, organised, social service must form part of all learning arrangements.

Training—The various activities leading to a realisation of the potentiality of the participants must be accompanied by organisation of a variety of training programmes. Although several type of needed training programmes can be organised by proper use of the technological media or through circulation of the printed word, there still remains need for organisation of systematic man-to-man training programmes. Such training programmes can relate to improvement in vocational skills or to occupational diversification, or any other subject of interest to the trainees, which could include programmes of civic and political education, understanding of the various laws, or programmes of nutrition, health and family planning.

Sport and recreation—All societies just as they have their folk arts they also have folk and indigenous games. These sports and games have considerable value as a means of learning and personal development. In this context, the need for systematisation and fostering of indigenous games needs to be emphasised. Special mention should be made of wrestling, athletics and games like kabaddi, kho kho, etc. Western games such as volleyball and football are already popular in the rural areas and can be further encouraged.

The Technological Media

Science and technology have placed at the disposal of man-

kind new means of learning. These vary from magic lantern, wireless and film to computers and satellites. Use of appropriate technology is as important in communication as it is in industry and agriculture. Practically all technological media have some common characteristics, which include greater importance of machines rather than the human element. Its greatest advantage is that it naturally attracts human beings and interaction with it does not demand strenuous efforts from the beneficiaries. Moreover, since programming is centralised, it is possible to achieve high standards. The advantages have, however, to be viewed along with a number of limitations. The foremost problem with technological media is that in a developing society like ours it is extremely difficult to democratise it—both due to costs involved and due to sophistication of technology. Therefore, this media has an urban orientation. Moreover if we are attempting to create a society in which programmes of learning are relevant to the needs of the learners and of the environment, utilisation of the technological media is fraught with numerous difficulties. Besides, most of the technological media is one way, and does not admit of exchange of views and discussion with those responsible for programming. Finally, there is the problem of maintenance and handling of the machines—even the simplest among them cannot tolerate handling by inexperienced persons.

However, used discriminatingly, and in conjunction with other media, the technological media can have considerable impact. Communication is also a matter of environment. And the technological media can help in creating an environment in which a multi-media package can be built up. Besides, in organisation of training of workers of various types, as well as in vocational education, the technological media has a very significant place. It can also serve as a potent means in creation of awakening among the people about their predicament and the factors which are blocking their progress.

Of the various types of technological media available for mass education, a special mention needs to be made of radio, TV, films, cassette tape-recorder and gramophone. Although the results of SITE show that TV has the possibility of contri-

buting to the creation of a new kind of communication environment, in India it continues to be a means of recreation, and learning which may take place incidentally, of the affluent sections of urban society. Emergence of the Indian National Satellite (INSAT) in 1981 would reinforce this trend, because decisions on the ground segment of INSAT are yet to be worked out. As the Working Group on Autonomy for Akashvani and Doordarshan (Akash Bharati—published by the Ministry of Information & Broadcasting, Government of India, 1978) has pointed out, technology rather than programming seems to be getting preference and it is the hardware which is leading software. The Committee has, therefore, rightly emphasised widening and decentralisation of radio network. Evaluation of the Farmers' Functional Literacy Project has also shown that wherever radio programmes can be coordinated with literacy and farm information, the results are spectacularly good. With 20 million radios through the length and breadth of the country, this media indeed holds an enormous promise, particularly if the idea of Gram Vikas Vani can be given shape. Films, particularly in the context of the improved Super-8 mm technology, can become a handy media which can reach with facility to the farthest corners of the country. In building up social awareness and in reinforcing the desired value system, films have an immense potentiality. Cassette tape-recorder can also be used to develop a habit of discussion and uninhibited speech, just as gramophone can become a means of teaching language.

Symbiotic Package

There are persons who believe that an intervention of literacy is unimportant in a country like ours, with long tradition of learning and dominance of a value system. Others believe that emphasis needs to be laid primarily on development of reading and writing capability, which would result in a society in which access to education would be widened and groundwork created for continuous learning. Yet others claim that in the era of technological advance the required information and attitude building can be arranged through media

such as radio and TV and all that is necessary is to create their universal network.

Let us be clear : in spite of the long and diverse cultural heritage, we still have a social system in which organised learning has little place, in which fatalism and passive acceptance of the predicament is common and in which spiritualism goes side by side with life full of indignities and deprivations for a vast majority of the people. Although the number of literate person has increased, literacy has not necessarily been accompanied by its use and 'the educated persons' often behave in a manner which surprises the 'uneducated'. The promise of radio, TV and films is yet to be fulfilled—lack of social commitment among those who monopolise the film media, the exclusiveness of TV and lack of decentralisation of the radio system have undermined the social objectives behind these media.

It is only through a package of the various means of communication—the printed word, folk forms of communication, group action, and the technological media—that one can hope for creation of a society which cherishes and gives practical shape to the nationally held objectives and in which all persons can strive to their best potential. Such a package will undoubtedly have a symbiotic effect, because of the possibility in it of release of unlimited human resource.

It needs to be readily accepted that in the past these media have existed with little coordination and such a symbiotic package would not be organised without a very deliberate and systematic effort. It should also be stated that an integration of the four is extremely difficult and what needs to be planned is coordinated activity in all these areas with the common objective of creation of learning webs. The principles underlying an effort at organisation of such a symbiotic package can be stated thus:

- (a) *Feasibility*—Even the best plans are not good enough if they are not practicable. In creating the package careful planning shall have to be done on the basis of what is feasible.

- (b) *Interdependence and complementarity*—That package is most feasible which is based on interdependence; for example, printed brochure being made available after a talk on likelihood of a pest in crops, or a discussion on the rural library system being accompanied by showing of a film how it has been done elsewhere.
- (c) *Coordination*—in terms of timing, subject matter as well as the needs of the learners. For example, a discussion on the care to be taken in preparation of soil for sowing of a crop should be accompanied by a programme on this subject on radio or TV. During festival seasons when there are prolonged cultural festivities, reading activities and programmes of technological media can be placed at a low key.
- (d) *Group activity*—Learning by technological media or by reading have a much great communication efficacy if these activities are organised in groups. Most of the folk cultural activities, and of course all group action are in any case family or group activities.

Organisation

A vision can become an apparition if it arouses hopes which cannot be realised. We have to factorise the tasks involved in giving practical shape to the vision of a learning society, and then design the outline of a suitable organisation.

Within the framework of the stated objectives, the basic tasks are five-fold: (1) production of suitable books, magazines, newspapers etc., and devising a service system for reaching and replenishing this material for persons who have only elementary literacy skills; (2) making folk and cultural means of communication a part of the consciously designed learning system; (3) implementation of the proposals for democratisation and decentralisation of wireless and TV, and creation of networks for utilisation of these and other audio-visual aids for learning; (4) organisation of programmes of functional

education, and establishing linkages with Government agencies and educational institutions for this purpose; and (5) creation of a forum in villages and urban *mohallas* for group action availing of all available media.

The Primary Cultural Centres (janapadas)

In every village and *mohalla* we must create a cultural centre.* The local educational unit, be it a primary school, adult education centre or active youth club or village library, could be the base for a *janapada*. Ordinarily, it should be possible to use the school building or a *panchayat ghar* or an empty godown of a cooperative society for accommodation. Wherever that be not feasible, inexpensive huts, which can accommodate at a time about 30-40 persons should be constructed, as far as possible as a part of service activity of students and village youth. In the large villages where there is a secondary or higher secondary school and in all urban and suburban areas the responsibility of running *janapada* can rest with the students of the secondary school or the college. The activities to be organised in a *janapada* would include:

- library and reading room services,
- discussion, debate and organised action.
- continuing functional education,
- cultural activities and forums for mass media, and
- sports and games.

The Support System—setting up Sanghams

A group of about 100 *janapadas* should be provided with a support unit, which may be called *sangham*. This support unit should be an integral part of the agency responsible for organisation of adult or non-formal education programmes. It should have a couple of well trained workers with facility for mobility. Its functions would be supportive, such as

- (a) organisation of training and seminars for the *janapada* organisers;

*which should be given an Indian nome, preferably a common name throughout the country, for exmple, *janapada*.

- (b) replenishment of the *janapada* libraries and fulfilment of their special demands, and publication of locally relevant material including wallpapers etc.;
- (c) coordination with developmental and other administrative agencies to secure assistance in organisation of functional training programmes and for bringing out relevant extension materials;
- (d) establishing contact with cultural institutions for making the folk cultural media a part of the learning set up in the *sangham* area;
- (e) rapport with the mass media, particularly radio and TV and making available to the *janapadas* other audio-visual equipment and aids; and
- (f) organisation of youth rallies, sports tournaments, cultural festivals, excursions etc.

Mobilising initiatives—It is necessary to mobilise initiatives along a large variety of agencies at different levels. These agencies would include the following:

1. The Government, at all levels from the village to the Centre. Government's responsibilities would include:
 - provision of funds,
 - setting up of structures at the *janapada* and the *sangham* levels,
 - ensuring that necessary supplies, particularly paper, are available,
 - ensuring cooperation of its extension and other field level functionaries, and
 - identification of various agencies and creation of circumstances in which they may take responsibility.

2. Educational institutions, at all levels from primary schools to universities and IITs. They have to commit themselves for this cause. Their role would include:

- making some contribution to creation of learning arrangements for persons with elementary literacy skills a part of curriculum for students,
- opening up their libraries and reading rooms,
- support to the various media for example by bringing out suitable publications, creating radio/TV stations, organising cultural activities etc, and
- training, evaluation and research.

3. *Voluntary agencies.* In addition to organisation of programmes of formal education, literacy and adult education, rural development etc., the voluntary agencies should take responsibility for involvement of the people in the communication channels. Agencies which have already taken responsibility for organisation of adult education, non-formal elementary education, or rural development programmes can integrate these activities with those programmes.

4. Organisations of writers, publishers, booksellers and librarians. These agencies will have to play a very important role. Detailed plans shall have to be prepared to ensure that suitable books are written, they are attractively published, book trade is encouraged, publishers and booksellers undertake work at the minimum feasible profit, and professional support is provided for creation of a library movement.

5. Institutions of folk culture, theatre groups etc. In cooperation with Government, voluntary agencies and educational institutions, they will have to explore ways of coordinating the activities of those agencies with the persons connected with folk cultural forms and urban theatre groups. It may be necessary to provide substantial financial support for creation of new institutions which would function as pace-setters in this connexion.

6. Producers of radio, TV, films and technical experts in use of other audio-visual means. The present level of use of these media being extremely inadequate, several exploratory and innovative measures shall have to be taken in this direction. They would be followed up by widespread use of these media.

Instrument of National Purpose

In concluding this lecture the best one can do is to accept the debt to Dr. Zakir Husain.

He believed that national education should preserve the national heritage and said on several occasions that a nation's history does not survive by the written word but it lives in the life of every citizen. After seeing the embroidered jamewar of Kashmiri craftsmen he had commented that persons who have such passion for excellence need only a few additional skills, such as literacy, to round off their education. Upon assuming office of the Vice-President he said:

Education, indeed, is the life—breath of our democratic life. A people as old and as young as ours can justifiably look upon education as the chief formative force of their life, for it is education that can critically appraise our great heritage, distinguish between the heritage that helps and the heritage that hampers; preserve the one and discard the other. It is education, again, that can give us a common vision of the future we are striving to fashion and generate in us the intellectual and moral energy to fashion it. Education alone can preserve the old values worth preserving. Education alone can give us new values worth striving for.

When elected to the highest office of President, Dr Zakir Husain said this honour was a recognition by the country of the fact:

“that education is inextricably involved in the quality of nation's life, that it is, indeed, a prime instrument of national purpose.”

It is this instrument of national purpose that we have to resolve to create.

WHITHER THE NATIONAL ADULT EDUCATION PROGRAMME (NAEP) ?

RAJAMMAL P. DEVDAS

Providing education for one destitute person brings greater blessing than building ten thousand temples or establishing a thousand choultries for free feeding of the poor.

—Subramania Bharathi

I am grateful to the Indian Adult Education Association for inviting me to deliver this lecture, 'Whither National Adult Education Programme' to honour the memory of one of the greatest educationists India has produced.

I am highly privileged to join the line of several distinguished scholars who had delivered this series of lectures earlier. This honour is for all the women workers in adult education, who are marching towards progress in the midst of numerous hurdles, with immense faith and unflinching devotion.

Economist by training, educationist by profession, humanist by temperament, Dr. Zakir Husain is among the most loved, creative, distinguished and enlightened leaders of our times. He always stood for learning, scholarship, wisdom, poise, dignity, and utter commitment to high principles and values. He had a powerful emotional and intellectual attachment to Mahatma Gandhi. He tried out a number of educational innovations including Adult Education, to develop a community approach in living and learning. His zest for education brought him close to Mahatma Gandhi in framing the craft oriented 'Nai Talim' suited to India's natural genius and needs. His election to the highest office in the land was a tribute to his combining in his personality, the noblest traits in India's culture and integration.

*Delivered in Amritsar on October 8, 1979.

Dr. Zakir Husain made a great contribution to adult education, as he did to the other facets of education, by linking it with national life. The Indian Adult Education Association has made a fitting tribute to honour the revered memory of Dr. Zakir Husain by instituting this Memorial Lecture. This has furthered the cause of adult education. As an imaginative and illustrious pioneer in the field of adult education, Dr. Husain was a source of inspiration to many workers.

Why Adult Education

Education is essential to human development. Democracy cannot function without education. Eradication of literacy is basic to national development.

The current definition of a literate person is one who can read and write in any one language with understanding. Measured against this definition, when India got Independence in 1947, the percentage of illiteracy was as high as 86, which meant that out of a population of approximately 400 million, more than 340 million were illiterate. According to the census of 1971, the percentage of illiteracy had decreased from 86 to about 65, but when translated into actual figures, out of a population of about 600 million, 390 million were illiterate.

Tremendous efforts have been made since Independence to improve the living standards of the disadvantaged people, particularly in the rural areas and urban slums. Yet, despite the progress made during the last 32 years, the problems of poor remain unsolved. Seventy five per cent of the population are still living without the basic requirements of health nutrition, housing, education and social services. Formerly it was thought that monetary investment and industrialisation would achieve national development, and that economic growth would bring about better living. But such improvements have not happened, in spite of the huge investment of the successive five year plans.

While denunciations of illiteracy have been vociferous, the

commitments needed for its eradication have not been manifested. Actually programmes for teaching literacy to women have even been relegated to the background sometimes, because literacy of women would challenge the existing privileges of sons over daughters, of husbands over wives, and the elites and some social classes over others.

Adult Education is not an end in itself but is a means to the end, that is development of men and women, to which goal social education is directed. Yet adult education programmes have not succeeded when competing for resources with other programmes and projects. The sting of ignorance is not tangible, and illiteracy gives the illiterate no pain. In competition for scarce resources, adult education loses to items such as the propaganda machinery, or the village clinic that will 'cure the sick and prevent' some immediate physical suffering. Adult Education also does not receive the same priority as agriculture, for food fills stomachs, while words do not. The argument that ultimately, Adult Education would improve food production and community standards does not convince planners. Furthermore, formal education for the young, competes with the non-formal education of the adult farmer, worker and home maker.

The sad neglect of mass education, in the rural sector, is evident from several village-based studies. The neglect leads to great losses individually and socially. On one hand, millions of illiterate persons in the country are living a life of ill-health, ignorance and poverty, perpetuating the vicious cycle of their liabilities. On the other hand, lack of education prevents them from meaningful participation in development activities. While efforts are being taken to build up and strengthen the infrastructure for rural development, the benefits do not necessarily flow to the needy clientele, because they are illiterate, poor, ignorant and lethargic and therefore cannot assert their rights. Unfortunately, illiteracy, poverty disease and hunger go hand in hand. Sooner or later, they bring unrest and resentment which threaten the stability and

functioning of the social order. The ultimate result would be unproductive revolution. Illiteracy is thus a curse. It blocks the development of the individual, society and the nation.

All the great educationists of the country have stressed the significance of educating the adults, in order to achieve, total development. Swami Vivekanand, the illustrious patriot saint made a clarion call to the nation. 'Arise ! Awake ! Stop not till the goal is reached ! Swami Vivekananda, with full awareness of the difficulties of adult education in a poor country announced a plan of work for social service for the masses. He wanted his disciples to buy some magic lanterns, maps, globes, chemicals etc, and go to the villages to teach them 'History, geography and the rudiments of science and impart to them a better understanding of the religion'. Adult education should not be merely literacy but must consist in improving the capacity of those taught and the quality of their work in agriculture, industry and the art of living. Swamiji thus foresaw the need for a functional literacy movement to give a purposive slant to education, so as to raise their capacity for work and achievement.

The father of the Nation, Mahatma Gandhi, emphasised that education was the basic tool to achieve nationhood. He had included adult education in his constructive programme. Dr. Zakir Husain had exhorted that adult education should be the stepping stone for the upliftment of mankind. He was particular that universities should become dynamic centres for the propagation of life-imparting and life-advancing values.

Adult education is indispensable in the modern world, which is progressing rapidly in science and technology with corresponding changes in the social structure, human behaviour and responsibilities. The rapid outdateding of knowledge which is an important characteristic of the present day, has made adult education both a necessity and a vital tool for the all round development of the individual and nation. Adult education is necessary for developing and fostering human qualities of mutual understanding, integrating respect, sympa-

thy and coexistence, Adult education is a pre-requisite for national development. Although the returns cannot be measured with precision, investment in human resources is a prime factor, contributing to economic and social betterment.

Adult education is more than education for literacy, Its frontiers go beyond remedial education. Pople continue to need adult education as long as they live, regardless of the status and quantum of their previous education. Adult education touches all aspects of living, while it may vary in terms of its clientele, subject matter, methods and techniques, duration and the types of agencies and organisations offering the courses.

Adult Education is Non-formal Education

Non-formal education which is out-of-school education is one of the major educational innovations of the modern times. Adult education, by its very nature, is non-formal in character. It plays a critical role, in 'conscientizing' people and developing an 'objective realization' of their situation and finding help to solve their problems. All the current efforts towards rural reconstruction therefore require adult education.

The clientele for adult education are the poorest of the poor, the dropouts and the pushouts from the schools and the illiterate rural masses, constituting more than 70 percent of the rural society or urban slums. The content of nonformal or out of school education is need-based, varied and flexible. Being action-oriented, the curriculum will follow the individual's learning path and aptitudes. This is the essential humanism of nonformal education. It uses the 'Human Need Base' approach (HNB). The curriculum unit is therefore not a group, but the individual. Such a curriculum needs to be innovative, imaginative and purposeful, subject to constant renewal and change.

The teaching technique and learning methodologies in adult education are built around dialogue and discussion of relevent statements of the multivaried means of self-learning

and not imposed instructions. In the setting, there is no differentiation between the teacher and the taught, and the learner and the learned. Everyone is learning something all the time and feeding back the effects of the new learning-positive and negative-into the teaching-learning environment. This task makes impossible imposition of any ideology, except the ideology, that every man or woman is a powerful, respectable, thinking, teachable and learnable individual, an individual who is endowed with rights, which he had been deprived of and therefore should become conscious of his rights and the need to exercise them fully and responsibly. Adult education is thus inherently human and deeply democratic. Viewed thus, non-formal education can help, as put forth by Naik (1976) to :

1. Educate, conscientize and organize the masses, so that they are enabled to improve their standard of living ;
2. Make work and development the core of the educational process and speed up national progress ;
3. Extend the benefits of the formal system of education to all the people who need it, especially to those who do not benefit from it at present ;
4. Improve the formal system of education and make it relevant, flexible and dynamic ; and
5. Assist in raising the level and quality of incidental education as well.

Adult education focusses on the improvement of personal and social living and occupational capabilities. It assumes importance because of the immediate and practical utility of the learning it effects. Non-formal education identifies the felt needs and reverse the local culture. It can take place on the job, farm or factory, alone or with families in a home, and can be adapted to a variety of real and changing learning needs. It is thus part of the rural reconstruction programme, with potential to transform the social and economic structure of the rural scene.

Favourable factors

The few conditions essential to the success of the adult education programmes are ;

- (1) The organisation must develop not only compassion for, but also a faith in the poor man, who makes the nation. The future of the country depends more upon him than upon the minority 'educated elite'.
- (2) Adult education should be given a status equivalent to that of formal education. Proper bridges must be built between formal and non-formal systems of education at appropriate points and
- (3) Non-formal education must be developed in a big way with a wide coverage on a massive scale.

The nation must be prepared to invest in nonformal/adult education. Such investment is investment in human resources. The success and quality of the programme of adult education will ultimately depend upon the extent to which educated, talented young men and women find it worthwhile to commit themselves to the task of educating the adults.

Literacy is for Change

Literacy includes speaking, reading, writing, and numeracy. Each component is important, but reading and speaking are more important, since they constitute the principal means of communication and assertion. Like all skills, literacy can be maintained and improved only by regular use and practices. This is possible only if literacy is made a part of work, recreation, religious observances, family responsibilities and every other aspect of daily life. Like work, literacy should be accompanied by an exercise of mind, for literacy gives shape to thought and strength to its articulation. Practice of literacy opens up opportunities for personal progress, an aspect of which is eligibility to enter formal stream of education, if and when desired.

Literacy, 'opens up new worlds', 'develops new views of

life', 'enlarges the horizons' and 'raises one's consciousness'. Hence the major concern for literacy programmes, (whether functional or not) is *change*. This implies, change in the individual's thinking, or in the words of the social scientists 'behavioural change'. For example, if in the pre-literate stage, a person had the view that large families were always good, and if in the newly literate stage, the same person expresses the view that smaller families are best there has been a change in his behaviour. If the pre-literate person knows nothing about measurement such as metres, for his dhoti, and if in the newly literate stage, he thinks in terms of so many metres of cloth, there has been change in his semantic structure, conducive to changes in practice.

Concept of Functional Literacy

In the context of its Experimental World Literacy Programme, UNESCO considers that the essential elements of functional literacy are that literacy programmes :

1. are incorporated into, and correlated with economic and social development plans ;
2. start eradication of illiteracy within the categories of population, who are highly motivated and need literacy for their own benefit ;
3. are linked with economic priorities and carried out in areas undergoing rapid economic expansion;
4. impart not only reading and writing, but also professional and technical knowledge, thereby leading to fuller participation of adults in economic and civic life ;
5. make literacy an integral part of the overall education plan and the educational system of the country ;
6. meet the financial needs of functional literacy out of various resources-public and private and

7. plan to aid in achieving the main economic objectives, that is, increase in productivity, food production, industrialization, social and professional mobility, creation of new manpower, diversification of the economy and overall improvement in the standards of living.

To summarise, UNESCO has defined that a person is literate, when he has acquired the essential knowledge and skills which would enable him to engage in all those activities in which literacy is required for effective functioning in his group and community and whose attainment in reading and writing and arithmetic makes it possible for him to continue to use these skills towards his own development and that of the community. Literacy, thus perceived, is an instrument of fundamental social change and a deliberate effort towards human liberation.

The fourth Regional Conference of Ministers of Education and those responsible for Economic planning in Asia and Oceania held in 1978 in Colombo resolved that the invited member countries must accelerate the struggle against illiteracy. The conference recommended that :

- (1) Literacy programmes be closely related to the vital social, cultural and economic concerns of the communities ;
- (2) decentralised administrative structures be evolved to facilitate active participation;
- (3) provide for effective mobilisation of resources ;
- (4) ensure the relevance of curricula and methods to the needs and interests of the learners ;
- (5) adopt package of basic skills and knowledge relevant to identified groups of learners with the objective of developing learning skills, social awareness and functional competence ;
- (6) prepare 'area-specific' and 'target groups-oriented'

programmes to extend the basic set of knowledge and skills to all those who are denied educational opportunities ;

- (7) introduce changes in the formal system to make it open and flexible enough to communicate the basic set of skills and knowledge to the first generation learners and those returning to the formal system ;
- (8) develop a complementary system of nonformal education which will convey the basic set of knowledge and skills to those who may remain outside the formal system ; and
- (9) UNESCO must explore the possibility of creating a regional fund for the eradication of illiteracy for Asia and Oceania, particularly for the least developed countries of the region.

The Commission on Higher Education for Women appointed by the University of Madras in 1977 exhorts that universities need to interact with and respond to the national efforts towards integrated rural development. In order to alleviate the pressing national problems, students in higher education need to be trained in functional literacy related to human nutrition, rural arts/crafts, engineering, housing, food preservation, balwadi organisation, small savings and family welfare, to prepare themselves for national work. It is noteworthy that the University of Madras provided in 1976 for Community and Social Service as part of the curriculum, giving unique opportunities for students to go to the villages, understand their problems, work for the welfare of the poor down-trodden and learn the dignity of labour.

Functional Literacy for Women

The exclusion of vast masses of people from educational opportunity affects more adversely women who constitute 81 per cent of the illiterate population in India. The Report of the Committee on the Status of Women in India (1974) emphasized the need for constitutional and legal guarantee in

changing the lives of the vast majority of Indian women who do not have the knowhow to improve their conditions of living. Therefore in planning adult education programmes for women we must make them conscious of their rights and responsibilities, assist them to acquire economic freedom, provide them with access to the knowledge and skills needed in day-to-day living, particularly in the areas of health, child care, nutrition, management of resources and better family living and to strengthen their participation in the total development process. Home Science education is relevant for this purpose, because of its contribution to personal development and community well-being through its components: human resource development and management, nutrition, housing, health, clothing and extension.

In launching a frontal attack on illiteracy among women, governments universities, colleges and other educational institutions, employers, Panchayati Raj institutions, mahila mandals, youth clubs and numerous other voluntary organisations working for the upliftment of women, should be helped to participate fully. They should be oriented to the special needs and potentials of women.

Pre-requisites for a Functional Literacy Programme

A literacy programme to be functional needs to be comprehensive, integrated and unified.

A **comprehensive** literacy programme must fulfil the needs of the learner fully. After the course of instruction, the farmer or the homemaker or any other individual in the learning situation, must be equipped fully to face the day-to-day challenges.

By orderly, is meant the arrangement of the components of the literacy programme, namely reading, writing, computation or calculation and the understanding of the subject matter underlying all these tools in a logical sequence. The teacher of adult must follow the well-known principles of education, that is going from the known to the unknown, from the simple to

the complex, from the general to specific and feed back from the specific to the general.

If a literacy programme and its supporting instructional materials are to be appealing to the clientele, they must become an integral whole and not a confused collection of separate entities. The reading should slowly lead to writing and both related to simple arithmetic for day-to-day use, three components **integrated** into a strong fabric by relevant subject matter. Effective work in adult literacy involves much more than teaching the isolated skills of reading and writing. Combining literacy with agriculture, industrial technology, child care, nutrition, health, economics and other fields of knowledge, to produce integrated programmes of adult education alone, will bring success.

By **unity** is meant, the unity of theme in the subject matter. The unity of theme must run throughout the instructional materials and the arrangements, supporting a literacy programme.

These four characteristics must be taken care of to aid an illiterate adult to become an independent learner. The curriculum of the functional literacy must be spun around this focal point.

If the literacy work aims to make adults better able to understand the world around them, to communicate with it and to change it, then, *science* should be the core of adult education, because the products of science have become important factors in the daily lives of people. Much of the material which the newly literate adults would need to read is directly related to science. For example, instructions for using a new variety of seed, pesticide or fertilizer, advice on selecting health giving foods for the infant, safety rules for operating machines of household tools, instructions for the use of medicines, newspaper reports about new government policies on conservation, or advice on ways of coping with draught, flood, earthquake or other disasters—all involve science.

Adult education programmes should train people to communicate with each other both orally and through letters, newspaper and other media about important science related matters. Even in the poorest villages, science plays an important part in the daily life of every adult and child. A project on non-formal education for rural women was conducted in Mahbubnagar, Andhra Pradesh which was designed to investigate the most effective way of bringing a basic package of maternal and child health practices to three most vulnerable groups : expectant women, nursing mothers and children upto the age of three years. The project revealed that an academic approach to teaching health and nutrition intimidated the participants, many of whom had no previous schooling and thus proved to be ineffective. It also proved that teaching of science was most successful when it was related to important felt problems, such as low agricultural production and infant mortality.

Whither National Adult Education Programme ?

As Mahatma Gandhi had pointed out, adult education neither begins nor ends with literacy and literacy must come as the response to the inner urge of the people to learn. Gandhiji suggested that the best way to bring literacy to people was to make the programme, life-centred. The National Adult Education Programme (NAEP) has been conceived to put into practice the Gandhian concept of adult education by helping the illiterate and the poor to work towards their own liberation through literacy and action.

While in the past the movement for adult education has been largely in the hand of some non-official agencies, the Government of India accepted squarely in 1978, the responsibility for adult education and eradication of illiteracy. Motivation for literacy, particularly at the highest political and educational levels, has become a crucial issue.

The launching of NAEP on October 2nd, 1978, is an act of fulfilment of the national promise to liberate the millions of illiterate brothers and sisters in our country and to help

them to become self-reliant, responsible and responsive citizens of this great democracy—India. Through the NAEP, the hitherto sporadic efforts of the Farmers' Functional Literacy Programmes; Non-Formal Education Programmes of the Education Departments, Social Education of the Community Development Programmes; Programmes of Voluntary Organizations, Universities and Colleges through the NSS and CSS and the Functional Literacy Programme of the nationwide Integrated Child Development Services (ICDS) Project have been mobilised to wage a united war against the illiteracy of specific target groups. In this effort, the pioneering role played by the Indian Adult Education Association through its technical support and operational guidance is invaluable.

NAEP is to wage a clearly conceived, well planned and relentless struggle against illiteracy to enable the masses play an active role in social and cultural change. NAEP aims to cover 100 million illiterates in the age group 15-35 years, in five years. All available governmental and voluntary machinery in terms of resources and personnel have been geared to initiate and implement adult education programme with the literacy component.

NAEP is visualised as a means to bring about a fundamental change in the process of socio-economic development from a situation in which the poor remain passive spectators at the fringe of the development activity, to become active participants in development. The learning process, apart from literacy, implies functional upgradation, and raising the level of awareness among the poor and illiterate regarding their predicament without contradiction to their distinctive and traditional value system.

Talking of the past, present and future role of Adult Education in Development, Dr. M.S. Adiseshiah, in his paper entitled 'Dare-es-salaam in perspective', states that the following four sets of decisions on Adult Education and development were made :—

- (1) It redefined Development in terms of man, all of Man

whole of Man, what India has defined into the new concept, 'Antyodaya'. Development is, what happens to the last Man.

(2) The redefinition meant reducing the growing international and intranational inequalities : the achievement of "Social, economic and political justice that leads to the liberation of mankind."

(3) Decision to push forward the New International Economic Order with its multipoint agenda covering food, security, expansion and multilaterilisation of trade, the building of buffer stocks in eleven key commodities as a means of ensuring stable incomes to countries and people. At the national level, the basic needs strategy must be adopted involving the attainment of minimum income, employment generation, water and housing facilities, health and education restructuring, and the launching of programme of redistributive justice which will make available to the mass of people the quantity and quality of life which is their due. The ills of affluence are also to be tackled.

(4) The recognition of the centrality of Education and particularly of Adult and Continuing Education to all of Development. This involves integration of Adult Education into the educational system which in turn, must be integrated into the national Development Plans; developing the integral and interdisciplinary nature of Education, in place of the unidimensional and monodisciplinary nature of Education; the growth of decentralised adult education structures in place of centralised educational hierarchies; the building in of participatory mass adult education methodologies instead of the elite oriented leadership; the conception of education as a continuum which conserves democratic values and our pluralistic cultures in the place of education limited by time and space and marked by political and cultural irrelevance; and the recognition of the revolutionary potential of Adult Education as a purveyor of change against *status quoism* and as a promoter of emerging new values alongside of nurturing the traditional ones.

These are the concepts which should guide NAEP. Its evaluation needs to keep these factors in view.

Role of Institutions of Higher Education in NAEP

The colleges and universities have a special role to play in fulfilling national targets in the field of adult education. The universities and their affiliated colleges, by their very nature of being the educational edifices are most suitable to work out operational models and implement them in the nearby villages and slums. Students who are the future leaders, administrators, planners and politicians are now poised for meeting the national challenge of wiping out illiteracy of the masses. The existing programmes and service structures in the educational institutions, namely, the National Service Scheme, Community and Social Service, Social Service Associations, Rotaract clubs, UNESCO Clubs and others are being deployed and mobilised with suitable guidelines through the University Grants Commission acting as spring board in training grass root level field workers in functional literacy.

The President of Indian Adult Education Association, Dr. Malcolm Adiseshiah, as Vice Chancellor of the University of Madras brought a new dimension to higher education, by giving adult education its rightful place. High distinctive contributions to adult education, through the introduction of the restructured curriculum, integration of education with community life, with community and Social Service as a curricular component in the University of Madras and motivating 33 of the University's affiliated colleges to participate in the NAEP, are unique educational innovations, bridging formal and non-formal education.

According to the annual report of the University Grants Commission for 1977-78, there are 115 universities in India including 10 deemed universities, with 4610 colleges affiliated to them. Even with a modest beginning of 10 centres per college per year, which makes the colleges eligible for financial consideration to run NAEP under UGC, there would be a minimum of 46,100 adult education centres in the country.

If the minimum requirement of 30 illiterates per centre in the age group of 15-35 years is fulfilled, the colleges and universities, centres of Higher Education in the country, would make 13,83,000 people literate every year ! Thus the role of the colleges and institutions of higher education in NAEP is significant.

As for Tamil Nadu, out of 6.5 million illiterates in the state, the government proposes to cover 4.4 million, voluntary agencies 1.5 million, Universities 0.5 million and the Nehru Yuvak Kendras 0.1 million.

The universities through their Departments of Adult and Continuing Education and the individual colleges should take part in NAEP in a systematic manner. Their specific activities are :

1. Assessing the functional literacy needs of the populations covering various segments, through surveys;
2. Identifying the target groups and resources available and making a malady-remedy analysis;
3. Creating a favourable environment through motivating both learners and the teachers;
4. Equipping the teaching personnel for literacy work by organising training programmes and workshop for the preparation of materials and instructional aids;
5. Undertaking scientific evaluation work on the various facets of the programme and developing tools for evaluation ; and
6. Directing fundamental action and evaluatory research on various aspects of the programme on a wider scale to ensure feedback.

Evaluation of First Year of NAEP

Evaluation of the trends of the first year of NAEP will give some valuable pointers; where do we stand ? What have we achieved ? Where have we failed ?

While one year is far too brief a period to come out with evaluative criticisms or appreciations, the progress achieved and problems faced in NAEP, measured even in a limited way, will help to guide the programme in the future. Evaluation must be operational and analyse the four parameters; input, process, output and context.

Inputs

The inputs are the clients, the change agents and the materials and facilities. The clients include the adult learners, their families, community groups and institutions. The change agents include the literacy teachers, student instructors, supervisors, extension workers, forum leaders, administrators, technical specialists and community leaders. The materials and facilities include instructional materials, production equipment and supplies, transportation, plants, space and facilities for printing, broadcasting and time.

Process

The operational process of the literacy project includes the set up of the class, teaching techniques employed and utilisation of teaching materials.

Output

The output includes the individuals benefitting out of the programme, the institutions responsible for and the communities undergoing changes.

Context

The political, economic and social context conducive to bringing about the change is an important aspect to be evaluated, specially the factors favouring or paralysing the success of the educational efforts.

Different people at different level of decision-making need different kinds of information and, therefore have different evaluation needs. Identification at the various levels of decision making is necessary. Data collected at a particular level must first be used at that level for decision-making before being released to those at other levels. Evaluation is useless

if information generated at a particular point does not ensure feed back and improve implemetation and action at that point. For example, a literacy teacher who collects classroom attendance data to be sent to the supervisor must first use them himself. He must analyse them in relation to the behaviour of his adult learners and find out ways of improving their attendance and learning. Similarly, before an area supervisor sends any information to the district headquarters, he should use it to take deliberate actions with regard to his local programme.

Some Positive Trends

The achievements of the first year of NAEP include at the political level the will to succeed and the consequent formation of the National Adult Education Board, planning in terms of the minimum needs of Basic Human Needs, (BHN) employment generation, priority given to primary and adult education and the growing interaction between formal and nonformal education and the development departments and sectors, and the increasing response of Adult Education to the new and emerging needs of people. These are not merely on paper but are being translated into action.

The remarkable role that institutions of higher education can play in NAEP, has been demonstrated. Although it is a challenging and arduous task, student instructors and teachers and supervisors, with the guidance of the Principals, have launched the programme and sustained them in several universities. Their uustinted interest in motivating the learners, sense of commitment and stewardship are noteworthy.

While figures are not available to quantify the benefits to commensurate with the cost involved in the programme, an overview in the University of Madras has revealed that remarkable efforts have been put in to motivate the learners and inject into them the necessary courage and will power to continue to be partners in the learning process. Several colleges are in the process of equipping themselves for the task by way of commitment, experience, learning materials aud physical set

up for the conduct of the programme with zeal and vigour. Their enthusiasm can be infectious.

It is too early to judge the worthiness of the programme, specially on the grounds of quantitative returns. While there is no nation-wide assessment, stray attempts reveal that the target figures have not been reached in the first year. However the qualitative aspect of the programme is encouraging. The programme has awakened the illiterate masses from their slumber and a wave of enthusiasm is seen among them to partake in the literacy campaign.

There are two specific outcomes from the programme. The lower age group in the 15-35 years target group, particularly those in the 15-25 years range are more receptive to the programme. They need to be given all encouragement to sustain their interest. Furthermore, the functional literacy programme has induced in parents a feeling that their children should study. This would go a long way in reducing school dropouts and consequently illiteracy among the next and subsequent generation. This awakening and conscientization serve as one of the strongest bases supporting the programme.

A meeting of the National Board of Adult Education was held in early June 1979 to review the state of NAEP at the end of its first year of operation and make decisions as to the second year when the operation will have to be doubled. It was noted that in some states, voluntary organisations were carrying out the programme effectively, and in one, a quick survey carried out by a social science institute showed how successfully the agencies were carrying out the programme and what difficulties and limitations they were facing. The danger that the programme faces is that of sliding into a straight literacy programme. The importance of the programme for women and scheduled castes and scheduled tribes was once more underlined and special efforts to develop them in the coming year was stressed.

The Sardar Patel Institute of Economic and Social Res-

earch, Ahmedabad made a quick appraisal of NAEP in Gujarat State, which was the forerunner of the programme. The findings revealed that the programme in general was addressed to the target groups kept in view under NAEP. Its achievement in terms of spread of literacy was rather modest. However, the period of operation of the programme at the time of evaluation had been so short and the project would have faced a number of initial obstacles.

Problems in the Implementation :
Challenges !—Not Barriers !

There are a number of criticisms levelled against NAEP, its strategies, organization, implementation and outcomes. No doubt, there are numerous problems in the project materialization. But these should be treated as challenges and not condemned as obstacles for progress.

A study, by the Indian Social Institute, of the Non-Formal Education Programme in the city slums of Madras points certain serious defects which need attention and correction. It says that the programmes are poorly organised, they do not cater to the felt needs of the people nor link the participants with marketing facilities or employment opportunities after they have completed the programme. The literacy programme in Madras slums was discontinued because of poor attendance, courses in tailoring not leading to marketable goods or other employment, the skills taught like handicrafts and bag making have little demand and there are no arrangements for credit, supply of raw materials or marketing. In the Delhi slums there was perception in the programme of what are the occupations which will increase family income. Hence there is need for the these programmes to be planned with expert advice. What is doubtful in the study is its conclusion that the slum dwellers will be more interested in health and hygiene, education and basic literacy.

Is NAEP Really Functional ?

One of the criticisms of NAEP is that the programme is run only as a mere literacy drive. Functional literacy is rather

a new concept, and it will take some time for the functionaries to become fully conversant with its method and contents. However there is growing awareness of this need on the part of the instructors and sponsors of the programme. The instructional materials are being prepared in tune with this need to incorporate functionality in the literacy programme. The training programmes for the personnel are also being geared to equip them in this respect.

However, the major difficulty is in linking literacy with socio-economic programmes. Any effort to initiate socio-economic programme suffers from want of suitability to the area and resources, making finance available to the programme and marketing. It is in this sphere that government will have to intervene to make the efforts fruitful. The various governmental departments and the Central Social Welfare Board are trying to collaborate in implementing NAEP, through initiating vocational projects and other suitable incentives for the willing, motivated learners.

Literacy Materials

Although NAEP could not wait till the nation is ready in terms of learning materials and aids, a bold beginning has been made. Several agencies-governmental and non-governmental are producing literacy materials. State Resource Centres have been set up for guiding the functionaries. Efforts are also being made to optimize the physical facilities for enabling illiterates to have a suitable learning climate. However, there is much overlapping and unproductive use of resources. These need to be studied and reorganised.

Other Factor

Still vast majority of people live in poverty which is an indicator of the growing inequality. The educational system is rigid, formal, essentially centralised and elitist. Adult education is still to be integrated into the educational system and in the national development plans. There is a wide chasm

between scientists and society, thinkers and doers and thought and action.

Another important problem in NAEP is to sustain the level of education acquired. Library services must exist in all adult literacy centres for the neoliterates. Indispensable to this process, is the continuous preparation of reading material so that they are functionally related to the needs and interests of adults and at the same time written in language and style easy enough for a person just emerging from illiteracy, to understand and use without difficulty. Their prices must be minimum.

Future of NAEP

Attention should be given to integrate meaningfully the three major components of adult education, namely, literacy, awareness and functionality. Literacy components should be supplemented by suitable economic programmes. Literacy pursuits should be linked with some vocations. The economic programmes should be based on local resources.

Efforts should be made to get the largest number of the rural clients interested in the programme. The most essential elements of life for the well being of the poor are food, health, house and education. Development efforts must target these, to illustrate the importance of food as the basic element for improved health, education and welfare, placing more direct emphasis on employment, agriculture and eradication of poverty. A sense of urgency must be created for the removal of illiteracy. All available community organisation in the locality should be geared to this national goal. Support from all existing mass media must be elicited.

Educational approaches which provide effectively, information and the skills people need, to participate in the development process are needed. Supply of the conventional literature or sophisticated equipments to use the new techniques does not suffice. The social and political constraints which prevent them from utilising the new information or facility must also removed.

The use of folk methods, for instance the participating theatre as in Botswana to start adult education and thereafter as an accompanying on-going process for problem solving, must be explored. Folk methods have given positive results in literacy classes and extension work for appropriate technology.

Adult education must take a lead role in determining and directing the development process. A new strategy must be evolved to bring about community participation involving all people in the entire community to work together for the common good. Community participation starts with the local people, who know each other and the community and its needs. Their own capable people should be trained to help them to show improved ways to prevent illness, to obtain water, grow crops, and eat better foods, store crops better, baby care, health, nutrition and community health. When properly implemented the strategy can unite humanitarian and growth concerns and include the bulk of the people in the development process.

Citing an example from Nature, Dr. M. S. Swaminathan has pointed out that evolution of progressive life system depends upon symbiosis (mutually beneficial interaction) and synergy (generation of multiplier effects). Likewise the systems in adult education will have to blend formal with the non-formal, academic with the vocational and university with the school, so as to result in symbiosis and synergy, the two principles which nature has so beautifully employed in evolution.

Motivation-Pre-requisite to Success

Efforts are continuously needed to create motivation for participation of the adult learners in the functional literacy campaign. The learners should be encouraged to practise such community actions as do not involve additional monetary expenditure.

The political leadership of the country must be involved in Adult Education. The role of Adult Education in development begins with and is decided by political commitment.

As recommended by the UNESCO, there is need for an appropriate machinery for bringing together on a regular basis those responsible for education to determine national commitment, decide on allocation of resources, and design sound policies and coordinated programmes for adult education for development. Such a coordinating body needs to involve government departments, (such as health, agriculture, rural development, education, culture, labour, social welfare, industry) the universities and colleges, organisations concerned with workers, rural development, trade unions, women, the aging, ethnic minorities, managers and professional personnel and broadcasters and publishers.

The Adult Education movement must become a cadre-based movement committed to the Adult Education ideology and comprising administrators, industrial workers, agricultural labourers, scientists, students, doctors nurses, engineers, managers, and politicians.

Research

One of the most urgent needs of the future is research which must throw light on the factors which create motivation for Adult Education, what induces political commitment, the role of awareness and methods and methodologies suitable for monitoring and evaluation of Adult Education. Another area in which research is needed is in communication covering the old mass media like the press, film, TV and radio and the new perspectives opened up by Satellite communication for adult education. Adult educators have a special responsibility for exploring the use of novel and traditional folk methods as the software facets of communication media. Such research needs to be participatory and cover all related disciplines and sectors in the social, natural and physical and human sciences and feed back into plans, projects and programmes.

Conclusion

Speaking on Indian Education in 2001, Dr. Malcolm Adiseshiah strikes an optimistic note: "At turn of the century, the schools and the universities in the country will be used

round the clock to cope with the compelling demand of education for 200 million children and 370 million adults". He also predicts that education in 2001 will be life-long and both the formal and the nonformal system of education will be functional in the 21st century, such that what one learns in these systems can be applied to solving individual and community problems. NAEP which emphasises employable skills, family and health welfare, political conscientization and civic participation in addition to literacy, must help make this futuristic dream come true.

NAEP should become a national commitment. It calls for concrete approach, effective planning, determination and coordination from governmental and voluntary organization at the implementation stage and unbiased evaluation and follow-up. It demands great vision, commitment, strength, selfless service and skills.

NAEP should be fostered as a movement, to bring about planned social change and lead to greater equality of opportunity for all. Such a commitment to life-long education would usher in the realization of the global objective for integrated development.

It is most appropriate to recall the Chinese saying :

“If you plan for a year,
 Sow a seed,
 If you plan for a decade,
 Plant a tree,
 If you plan for a century,
 Educate the people.

Only concerted, concentrated, continuous, and tireless efforts of all concerned, steeped in devotion and enthusiasm and intelligent use of materials can bring success to the great, purposeful, urgent national mandate. Let us all strive hard and achieve success in this Himalayan task.

The learned alone have eyes on face
 The ignorant, two sores of disgrace.

—Thirukkural

ROLE OF UNIVERSITIES & COLLEGES IN ADULT AND CONTINUING EDUCATION

Madhuri R. Shah

I am grateful to the authorities of the Indian Adult Education Association for inviting me to deliver the Zakir Husain Memorial Lecture this year. It is a great privilege of which I shall always feel proud especially because of my long association with the cause of Adult and Continuing Education, so dear to Zakir Sahib. I am not sure, however, that I deserve this honour; and I should be pardoned if what I say is not worthy of the great philosopher and educationist after whom these lectures are named.

Dr. Zakir Husain (1897-1969), the third President of the Indian Republic, was an eminent educationist, a distinguished statesman and a great scholar. He was one of the few adult education leaders of the country who took adult education classes and actually taught the adults. Dr. Zakir Husain was the Vice-President of the Indian Adult Education Association which came into existence in 1939 at Bhagalpur in Bihar, from 1949 to 1960 and was also its life member.

Zakir Sahib's experience in education was put into good use by Gandhiji, when Gandhiji appointed him as the Chairman of the Committee to design the syllabus for basic education. Zakir Sahib, while presiding over the Silver Jubilee Conference of the Indian Adult Education Association in 1964, urged the universities to enter into the field of adult education. I have, therefore, chosen to speak on "Role of Universities and Colleges in Adult and Continuing Education".

Literacy and Development

India with its population of over 65 crores is the largest
Delivered in Patna on October 21, 1981.

democracy in the world. To make this experiment of democracy a success, an all round development is of fundamental importance. Politicians, economists, sociologists, industrialists and educationists seem to be agreed that the development of a country depends primarily on the quality and effectiveness of its men and women. Democracy is of little benefit to the people if they are to remain uneducated and the number of illiterates remains high. Democracy cannot flourish properly unless the people are able to understand and take part in the institutions that democracy has forged for them.

Economists have repeatedly stressed the importance of giving due consideration to the human factor in development. The wealth of a country is dependent upon it more than its natural resources and material capital; it is determined in significant degree by the knowledge, skills and motivation of its people. The investment on man and his development is as important as material investment in dams, roads, harbours, irrigation systems, factories or communications. No nation can make any notable economic or social advancement without literacy being spread to a major part of its population. Recent studies on the relationship of economic growth with literacy have proved this. Illiteracy as a mass phenomenon blocks economic and social programmes, affects economic productivity, population control, national integration and improvement in health and sanitation adversely.

One-fourth of the population of the illiterates of the world in the age group of 16 to 35 is in our country. India in 1973 occupied the second position in Asia as far as the percentage of illiterates at the 15 plus age group was concerned. More than half of the entire illiterate population of the world in all age groups is in India.

During the last 150 years, India has created a huge system of formal education which has about 700,000 educational institutions, 100 million students, more than 3.5 million teachers and an expenditure of about Rs. 25,000 million which is next only to that on defence. But this huge system hardly benefits the people at large about 60% of whom are still

illiterate and have received none of the benefits of this vast educational system. The Constitution of India demanded that universal elementary education be provided to all the children by 1960, but we failed to do so. Of every 100 children, only 25 complete elementary education. We have one-seventh of the potential talent of the world; and yet our achievements in many spheres are negligible for the reason that a vast reservoir of our talent remained unidentified and uncultivated.

The national literacy rate in 1971 was 29.3%. Of the 360 districts in 1971, only 83 districts had literacy rate of 40% and above, 210 districts had literacy rate in the range of 20-40% and 67 districts were having a literacy rate below 20%. Districts below 20% of literacy rate are largely concentrated in the States of Rajasthan, Uttar Pradesh, Jammu & Kashmir, Bihar, Andhra Pradesh and the Union Territory of Arunachal Pradesh.

The lack of education is particularly acute amongst women. For a variety of reasons, women have been denied equal educational opportunities with men. In most developing countries there are still more school places for boys than for girls. Owing to age old prejudice against the education of females, illiteracy among women is 50% higher than among men.

In spite of all efforts, the number of illiterates is increasing year after year because of failure to provide universal elementary education in the age group of 6 to 14; abnormal increase in population; half-hearted approach in the implementation of the Adult Education Programme; and a large drop-out rate. A very large segment of our population is illiterate and their number is growing everyday. What is more alarming is that a great many of the illiterates are from the weaker sections of the society, scheduled caste/scheduled tribes and above all women. It is, therefore, necessary and urgent to provide literacy to this segment of society to enable them to play a constructive role in the development of the country.

Functions of a University

The widely accepted function of the university is communication of existing knowledge and extension of the frontiers of knowledge by research and creative activity. The progress in the functions of the university is a "sweet-sour" process in the same manner as advances in science or technology carry the mark. If the university succeeds in achieving its basic obligations—communication and extension of knowledge—it creates in the wake of its success two problems; a large number demanding access to the privileges of such education; and a tremendous increase in disciplines creating a stress in the educational activities of the university.

Under the impact of the first, university became 'Massiversity' and with the second it became 'Multiversity'. Such a situation created a dilemma for universities and the challenge was met by the new structural type of a university, the Open University and with the curricular process for inter-disciplinary approach.

With the exponential growth of knowledge, specifically in social, physical and biological sciences, synchronising with increase in the rate of obsolescence of the prevalent knowledge, it has become necessary for the institutions of higher education to ring out the old and to ring in the new in their curricular offerings.

Due to the acceptance of democracy as our way of life, educational opportunities are no longer limited to a few urban elite but have to be planned for larger groups of persons of different strata of society and for different regions of the country. In order to reduce inequalities existing in our society, our universities will have to reorganise their structure, content and strategies. Universities can no longer remain ivory towers. They have to reach out to the community and hence new models and varying alternatives have to be evolved with stress on flexibility, diversification, newer techniques and widening of horizons.

In earlier times, higher education and good jobs went hand in hand. Now this correlation between the two has been shaken. Graduates are seeking jobs which are not offered in the market. The educated youth wants return. Thus the utilitarian theory is dominating the system which earlier emphasised acquisition of knowledge and liberation of the mind, as the demand for education depends on returns from education. Universities will have to quickly provide diversifications for social relevance to avoid frustration and identify crisis in higher education.

Under this conflicting impact, the university had to don an evolutionary character. The university has continuously to satisfy the needs of social environment in which it is placed and yet it must not throw away its innate characters as a catalyst of social change. This tight rope progress required adjustment to the society's needs while being an active agent of social change.

The main issues arising out of this new situation require examination of the needs of modern society, whether our education system is capable of meeting these needs and in the light of this analysis plan our future strategy.

The world of scholarship is fast changing; the quantum of knowledge has increased beyond imagination; new life styles are battling with established values, investment in formal education has outrun returns, the pattern of education leads to emigration to urban areas; the traditional concept of higher education is no longer responsive to the present needs of society; the range of opportunities has changed. As a consequence of the above factors, the thrust of higher education has shifted from a traditional liberal stance to a practical education for productivity and the world of work.

Universities are the creation of the society and must serve the community of which they are part. Educational system cannot now afford to remain a closed circuit. The function of the university according to modern thinking is to help the

social, economic, educational and cultural growth of the community which it serves. That the universities should be closely involved in the life of the society is imperative both for the society and for the universities themselves. The aim of the University Education should be not only to produce mere specialists, rather cultivated men and women needed for the development of the country. Gandhiji used to say that "The aim of University Education should be to turn out true servants of the people who will live and die for the country".

The traditional role of the universities has been to serve the society by training its youth in the field of higher education, transmitting knowledge and culture, preparing people for profession and undertaking research. The universities are also being called upon to help apply their knowledge and do research in solving the urgent problems of the society. This function is called extension. Dr. Zakir Husain while delivering the convocation address of the Bombay University in 1967 said "The traditional universities had three main functions—teaching; research and the training of leadership in a few select fields. Modern universities will have to continue and expand these functions to cover all walks of life and to add two others: service to the community and adult education. This is especially important in developing countries. I visualise the establishment of strong extension departments in universities to look after such programmes of community contact and social or national service. When they do come into existence, the extension departments should also develop programmes of adult education. Intensive drives have to be organised for liquidating mass illiteracy and teachers and students in higher education can play a valuable role in them."

Adult and Continuing Education

Education is a subject of wide and ever growing dimensions. Continuing education is the outcome of the new dimensions of education. The non-formal nature of continuing education makes it easier to absorb the new dimensions and new perspectives of education than it is feasible in formal education,

which has generally proved to be segregative and fragmentive rather than harmonising and integrative. Continuing education should, therefore, attempt to evolve a new process of learning which is radically different from formal education. Continuing education is a process of achieving integration of knowledge with life or as a process of rectifying the imbalances created by formal education in individual as well as community life. Formal education has contributed in widening social disparities. Society needs a process of education which will help in bridging the disparities. Continuing Education should, therefore, be organised in perspectives of a new society. Continuing Education is a life-centred process of facilitating the emergence of self-reliant communities.

Quite a number of terms have been considered synonymous with continuing education. Adult Education, recurrent education, further education, life-long education, extension education are terms associated with continuing education which in a nature is non-formal education. It may be perhaps worthwhile to accept the definition of the International Commission on Development of Education framed to give the different aspects of adult education and hallmark of different connotation under which continuing education is recognised which reads as under : "There are many possible definitions of adult education. For a large number of adults, in the world to day, it is a substitute for the basic education they missed. For the many individuals who received only a very incomplete education, it is the complement to elementary or professional education. For those whom it helps respond to new demands which their environment makes on them, it is the prolongation of education. It offers further education to those who have already received high level training and it is a means of individual development of everybody. One or other of these aspects may be more important in one country than in other but they all have their validity".

Education cannot be considered in a vacuum. It is a sub-system of the society and closely related to its cultural, economic and political aspects. A major weakness of the existing system is the lack of relevance of most of what we teach.

This irrelevance of education progressively alienates the intellectual community from the people and the basic problems of the society. Universities now realise that education is an instrument to enable the people to effectively participate in the development process with a view to establishing a just and equitable social order. With this objective as the focus of efforts, education by its very nature has to be a continuous life long and goal directed process. Universities can no longer remain isolated from the larger society. If we admit that education is the primary need of each individual the educational system and more so universities will have to broaden their educational functions to meet the new challenges. Continuing Education is an important and a dynamic model to meet this changed need.

Having discussed all the facets of continuing education and highlighted the functions of the modern university in a society, let us now consider the various facets of continuing education in relation to the functions of the university and decide whether all of them are essential, and if so, what should be their priorities as a major academic activity of the university. It is necessary, therefore, to delineate the scope of the functions by which the continuing education has been defined under the definition referred to in the beginning.

The first function relates to adult education as a substitute for making adults literate. Such a group, which needs education the most, is largely neglected. Thus the major task under continuing education is to plan programmes for them through a problem-oriented rather than a subject-oriented approach and then give them an opportunity to enrich the knowledge gained on a continuous basis.

The complement aspect of continuing education is specifically relevant to solve the problem of the dropout. The problem of dropout is a terrifying issue, second to that of illiteracy. Dropouts are not illiterates, but in the employment market they do not have a much higher status than illiterates. Moreover, they have missed the regular time span of formal education.

The dropout from an educational stream, necessarily is not the outcome of incompetency for academic studies, but may be due to other economic and social stresses that bring about interruption in the normal tenure for the completion of studies. It is necessary when such persons nurse a high degree of motivation for completing their university studies, opportunities and facilities must be made available to achieve their objectives. Such adult education programmes through providing a second chance have proved to be a useful complement to education and may soon become an important alternative to the formal system.

The third aspect of prolongation of education is propagated through evening classes, workers' universities and similar institutions by extending the education acquired by adults in their youth. This strategy meets two main purposes of extending the horizons of learning and thus satisfying the thirst for knowledge and culture and offering a chance of professional advancement and training for a new job. In a fast-changing professional scene, under the impact of sociological changes and technical development, previously acquired skills may become obsolete and hence this aspect helps individuals to adjust to demand made on them in this changing scene. This function also provides supplementary education.

Further education, referred to as the fourth factor, implies furthering of education through inservice training courses and updating of professional knowledge and skills generally in the same discipline with a deeper specialised approach. Educational institutions are becoming more and more conscious of this need which has led to extension departments and centres of advanced studies within the institutions.

Continuing education and further education have an overlap connotation and both taken together, one may designate as post experience generally vocational education which is broadly relevant to the individual in the development of his working life. It is a course that is pursued without disrupting the even tenor of professional pursuit. It is so designed as to bring

about acquisition of new skills relevant to employment, appreciation of new technologies and processes and thus changing the role of a craftsman into the profession of a technician.

The last aspect, individual development, is the most crucial factor. The supreme aim of education is to develop one's personality, the task in this respect for adult is much more difficult compared to the stage of childhood and adolescence in view of the constraints of the society. The Tokyo Conference organised by UNESCO on Adult Education in 1972, described the objective of adult education in the context of this aspect as an instrument of conscientization which means 'both an awareness of reality, with all its social, political and economic constraints and contradictions, as well as the starting point of a struggle against oppressive reality'.

Gandhiji said that "By Education I mean, an all round drawing out of the best in child and man-body, mind and spirit; literacy is not the end of education, nor even the beginning it is only one of the means whereby men and women can be educated. Literacy in itself is no education". The following issues are basic to Gandhiji's thought on Adult Education:

- Education is a life long process and spans an individual's entire life and should not, therefore, be limited in time and space.
- Adult Education, is not, separate from the education of children, but is integral to it, and part of a continuum; adult education is central to pre-basic education.
- It is related to the needs of an individual. It should be learner-oriented rather than teacher-oriented.
- Education has to help the adult to live life more fully and effectively, education is for life.
- Education should result in a generation of people's awareness and own inner strength.

- Education should help the adult to be self-reliant and tackle his own problems himself.
- Therefore, it should utilise all life situation—be meaningful and relevant.
- It should enable the individual to grow, and develop his potentialities to the maximum, to enrich not only himself, but his society.
- Literacy though important, is not the end or ultimate objective of adult education. The general knowledge, awareness and ability to help oneself is more important.
- The education imparted, should be based on self-help, on local and indigenous resources rather than on resources from outside.
- Manual work or craft or rather development of a vocational skill should be basic to this education and training. It should enable the individual adult to perform his work more efficiently and to improve his economic condition.
- It should heighten an individuals consciousness and sensitivity to situations.

National Adult Education Programme

The tradition of adult education in India is very old. After independence adult education was included as regular component of the educational system within the framework of the Ministry of Education. The Central Government sponsored various schemes for the spread of adult education. The latest most noteworthy attempt in the field was the launching of the massive programme of NAEP on the 2nd October, 1978, the birth anniversary of Mahatma Gandhi. Prior to the launching of the programme, a draft policy statement on

Adult Education was circulated, which stated, "Exclusion of a vast majority of the people from the process of education is a most disturbing aspect of educational and social planning. While determined efforts must be made to universalize elementary education upto the age of 14 years, educational facilities must be extended to adult population to remedy their educational deprivation and to enable them to develop their potentiality".

Further, it was stated: "The present thinking on adult education is based on the assumption that (a) illiteracy is a serious impediment to an individual's growth and country's socio-economic progress; (b) education is not co-terminus with schooling but takes place in most work and life situations; (c) learning, working and living are inseparable and each acquires a meaning only when correlated with the others; (d) the means by which people are involved in the process of development are at least as important as the ends; and (e) the illiterate and the poor can rise to their own liberation through literacy, dialogue and action.

Adult education should emphasise imparting of literacy skills to persons belonging to economically and socially deprived sections of society. But while literacy is important, the policy statement also made it clear that "Adult Education while emphasising acquisition of literacy skills, should also be

- relevant to the environment and learners' need.
- flexible regarding duration, time, location, instructional arrangements etc.
- diversified in regard to curriculum, teaching and learning materials and methods; and
- systematic in all aspects of organisation".

The National Adult Education Programme is intended to make available educational opportunities to 100 million young

adult during the next five years. Never before in our history as an independent nation, has there been such a clear recognition of the crucial connection between education of the adults and the country's development and a willingness to back this up with the commitment of resources. By any standard, the NAEP is a huge task unprecedented anywhere in the world. The programme received full support from different sections of society. Adult Education as conceived in the NAEP constitute an integral part of human resource development which is so vital for any development programme. The NAEP has been visualised as an important strategy for achieving goals of redistributive justice and in taking the benefits of development to the down-trodden people by making them literate and by creating social awareness among them. The NAEP emphasises employable skills, health and family welfare, political consciousness and civic participation in addition to literacy. The three dimensions of the NAEP are, awareness, functionality and literacy; the NAEP differs in this respect from the past literacy drives in the country.

University and N.A.E.P

The universities have been considered specially suited, structured and staffed to provide the needed professional and technical guidance required for the implementation of the programme. The areas of cooperation are: developing need based curriculum and teaching learning materials; organising training programmes for personnel at different levels; preparing evaluation tools and carrying out evaluative studies leading to follow up measures; conducting initial surveys for identifying learners and community needs; providing assistance in preparing popular literature for masses; and carrying out applied researches. The universities and colleges could participate in the adult education programmes through their student body, teachers and the departments or centres of adult or continuing or non-formal or extension education.

Students should be involved in organising surveys in

nearby villages/slums to identify learners and resources and the needs and problems of the community; to work as instructors or communicators in the adult education centres, to create an awareness among the people about the need for actively participating in the adult education programme; to arrange seminars, symposia, exhibitions, meetings at different places so as to cultivate awareness among the public on adult education programmes and to work as promoters in the running of adult education classes. Gandhiji once said about the students that "The students should devote the whole of their vacation to village service. During the long vacations the students will stay in the villages and offer to conduct classes for adults and to teach the rules of sanitation to the villagers and attend to the ordinary cases of illness. They will also introduce the spinning wheel amongst them and teach them the use of every spare minute. In order that this may be done students and teachers will have to revise their ideas of the uses of vacation. It is obviously the best preparation for dedication to exclusive village service after finishing the studies."

Teachers could train or orient adult education functionaries at different levels, such as, instructors, supervisors and project officers, prepare need-based curriculum, teaching and learning materials and methodologies suitable to adults; deliver extension lectures, popular talks in the colleges and nearby villages; take up applied research projects, evaluate the programmes and suggest followup measures; involve themselves in the preparation of books for neoliterates and also technical books useful to functionaries and the key personnel and to collaborate with students, give them leadership and guidance in adopting villages/slums for adult education work. About the teachers Gandhiji's views are "I can think of only two ways open to him : First, he should settle down in a village, mix with the people there and serve them. To the extent that he serves the people, he will also be educating them. The other is that simple books useful for educating the people should be prepared and brought out at a low cost, and a campaign should be started for spreading them among the

people. Those who are interested in the work should be encouraged to read out these books to groups of illiterate people and gradually this should become an established practice."

The centres of continuing or non-formal education or departments of education could play a leadership role in planning, training of adult education functionaries, production of teaching-learning material, and monitoring and evaluation of the programme etc.

U.G.C. and N.A.E.P.

The University Grants Commission has been assisting the universities and colleges to participate in the adult education and extension programmes. In the guidelines, it has been stressed that universities must realise the need for carrying knowledge and skills to the people in all walks of life and accept service to the community as one of their important responsibilities and give extension the same status as teaching and research. It is important to establish an organic link between adult education, extension and university curricula as without such interaction on a continuing basis, the universities will remain isolated from the society and their programmes out of tune with the reality around them.

At present, 68 universities and over 700 colleges are participating in the programme of adult education and extension and are engaged in organising adult education centres all over the country. The universities and colleges were requested to take special care to organise programmes of adult education for scheduled castes/tribes, women and people from the backward areas of the country.

The implementation of the adult education programme by the universities and colleges over the last two to three years has revealed that the educational system is still rigid, formal, essentially centralised. Adult Education is still to be integrated into the educational system and in the national

development plans. Students and teachers of the institutions of higher education can impart to the NAEP a dynamic and critical vitality. The involvement in this programme would bring the institutions of higher learning closer to the community and would give to the students and teachers a challenging opportunity for giving practical shape to their idealism. Adult Education and Community Service should be a part of the curriculum giving both teachers and students academic credit. Home Science colleges and departments of Home Science should be fully utilised for conducting adult education programmes for women.

Continuing Education and Universities

The main objectives of continuing education is to give greater relevance to education. The centres of continuing education in universities should act as catalytic agents trying out grounds for new experiments with need based courses and innovative approaches. The centres should have a machinery for development of courses on an ongoing basis, to inject freshness into the general academic scenario at the universities. Every university institution, in order to develop and grow and not suffer from obsolescence and irrelevance must take up continuing education and extension work.

A Centre of Adult & Continuing Education in a University should be a non-vocation academic department, functioning as an interdepartmental unit. Continuing Education does not require a faculty of its own in the traditional sense nor a structured Board of Studies. The academic staff in a Centre may be in the nature of a core group. Additional staff support could be sought from within the university/college and from other specialised agencies outside the university system.

The programmes of adult and continuing education will use non-traditional approaches and innovative methods which will be participatory in form and work-centred in content, depending upon maximising the available physical and human resources in educational institutions and the community.

Methods adopted should be non-formal in nature and involve the use of work experience, field visits, extension lectures, techniques of distance education and use of mass media etc.

The groups for which the programmes are to be organised could be identified on the basis of the surveys. However, priority needs to be given to the programmes for the weaker sections of society which may inter-alia include women, particularly of rural and slum areas, scheduled castes and scheduled tribes, drop-outs, unemployed and out-of-school youth, handicapped, workers in the unorganised and the organised sectors, teachers of primary, secondary and handicapped children and university students from under privileged rural groups and from slums.

Extension activity is an important dimension of higher education. It should gradually permeate within each subject discipline in the form of change in curriculum, teaching methods and evaluation strategies. Linking continuing education which curricula may be easier if every major department of study decides to set apart at least 15–20% of its curricula time for continuing education and recognises it as an integral part of curricula on the same lines as laboratory work is considered integral to science courses. The programmes of adult and continuing education will benefit both the community and the higher education system. These will promote a meaningful and sustained rapport between the university and community.

The University/College involved in adult and continuing education programme should first identify a sizeable community. A community may be area based or ethnic. It may be a group of villages or group of working class colonies. The vital thing is to create an inter-locked and inter-linked arrangement of conducting formal and non-formal education together with continuous mutual inter-action. The community should be viewed in totality and not in sectoral terms. Adoption of a community with geographical contiguity will be more advantageous. Neighbourhood community will facilitate

closer interaction between formal education process and continuing education. This will provide continuous feed back to formal education and will make the formal education more dynamic.

In India, continuing education facilities are provided by our universities through their correspondence courses; through courses organised for the professional upgrading of managers, technicians, skilled workers, agriculturists, engineers, doctors and para-medicals by the professional institutions; through community programmes organised for urban workers and illiterates or for the rural areas—farmers, women, youth and artisans; and through seminars, conferences, symposia and public lectures and discussions etc.

Several universities are participating in the programmes of continuing education with the assistance from the University Grants Commission which at present will be available upto 31st March, 1985. The UGC will promote research in adult, continuing and extension education through universities and colleges as a part of its regular research programmes. The universities have been requested to bring within the purview of the programme, schemes relating to the education of the people in the rural, tribal and backward areas as also the weaker section of the society. The scope of programmes of continuing education is also to be expanded to include such areas as Population Education, Nutrition Education, Science for the Masses and Environmental Protection.

I would now like to invite your attention to some of the basic issues relating to adult and continuing education, development and the role of institutions of higher learning in this regard with a view to formulate programmes and operational strategies in the years ahead so as to enable the universities and colleges to participate effectively in the process of national development.

Literacy

The most disturbing aspect of the situation is that while the percentage of illiterates has declined, the absolute numbers have actually increased. These dimensions of illiteracy have created serious imbalance in the development programmes. The benefits of development have tended to go to a small minority of population and the illiterate groups have largely remained deprived; inequalities have in consequence widened. The widespread prevalence of illiteracy in rural areas has been a severe drag on national programmes of rural development. Studies have shown that the areas of deprivation and poverty and the areas of illiteracy overlap. Furthermore, illiteracy blunts the motivation and the effort through which the poverty cycle could be broken. Illiteracy is not just an absence of literacy; it is a psychological and social force with its own momentum which has the affect of deepening deprivation and poverty. The dropout rate is so high that it is a deception to hope that those who enter schools will leave it with endeavouring capability to read and write. There is also a challenge of population growth. Illiteracy continues to be major problem and a drag on national development—economic, social and cultural.

Literacy is the acquiring of the three Rs', Reading, Writing & Arithmetic. Development is a growing economic process, on the basis of an equitable social structure of men and women formed into societies or nations. The commonality of both literacy and development is man and woman. In the concept of development, GNP has been dethroned and replaced by people meeting their demands for equality and removal of poverty and unemployment. Adult Education should not be considered as a separate programme or external input. It is a part and parcel of development process and should therefore be built in as an integral component of the various development programmes. Linking adult education with development programmes would on the one hand help in enhancing the material standard of living of the adults and on the other by maximising the outcome of social and economic

inputs would promote an optimum development of the society.

Gandhiji said that "Mass illiteracy is India's sin and shame and must be liquidated. Of course, literacy campaign must not begin and end with mere knowledge of the alphabet. It must go hand in hand with the spread of useful knowledge". According to Gandhiji literacy meant functional literacy.

The problem of illiteracy in our country has reached legendary proportions. If the University and College faculty numbering 100,000 and the students population (at the secondary and collegiate levels) numbering 5,00,00,000 could meet this challenge, this country's fate could be changed and literacy could be achieved successfully. It becomes necessary to establish specific linkages between expansion of non-formal education and improvement of the formal system. The literacy programmes should be part and parcel of the total educational programmes of the country. The Education Commission (1964-66) has urged that by 1986 illiteracy should be nearly, if not totally, eradicated as a step vital to industrialisation and development of agriculture. The universities can make and ought to, a significant contribution towards the attainment of this major national goal.

Women

The bulk of the clientele for literacy are women, not only among the very poor sections of the society and scheduled castes and scheduled tribes, but also among the slightly better off rural population. Women's literacy or education has a special importance. It is needless to point out that if we can make every woman literate there can be no illiteracy in the future generation. A literate mother's child cannot remain illiterate. Hence, women education deals with a fundamental basis of the society. The social and religious traditions have kept women illiterate, backward and timid. There is a marked difference between the literacy rates of men and women, with female literacy lagging far behind. Gradual reduction of illiteracy

rate does not automatically mean reduction of female illiteracy. Any policy for literacy action must deliberately and consciously aim at dealing with the problem of combating illiteracy among women. The universities and colleges, should play an important role in providing literacy to women.

Women has to play diverse role in the different stages of her life. As a young girl, she is a helpmate to her mother for domestic chores. As a young wife her role changes, not only for streamlining her household duties but in the modern society, to be also a duplicate earner. To this role is then added that of the role of the mother which brings about a role which she must play and fulfil not only with a limited outlook of her family but with a broader vision of society and nation. In the old age, which a woman resists to admit, chronologically she has to maintain and secure for herself the love, affection and respect both in the family circle and the social environment in which she moves. The civilisation today has added to these traditional role of women all the varied and diverse roles that men play in social and in national life. With such multifarious role to play, women must secure for themselves the maximum facility that a structure of continuing education can offer through all the different modes, like the open university, with the age eligiblity and without a formal academic requirement, distance education for homebound studies and other educational offerings given under continuing education that may make their leisure rewarding and may even give them the opportunities of self-employment. Because of the need to improve women's earnings, health, nutrition, child care, family management and status, Home Science institutions should participate effectively for conducting adult education activities for women.

The Addis Ababa Conference Report speaks of the urgent need "for the increased use of educated 'women power' in the working life of the community.....the need to develop a new conception of the role of women in the life of the community—to improve their contribution as home-makers, to expand

their opportunities of employment, to encourage a greater participation and leadership by women in community affairs and public life.....The further education of women is a crucial aspect of adult education in the developing countries."

Extension, Curriculum & Relevance

Teaching, research and extension are the three basic objectives of university education and they should be pursued with equal importance. Extension should be linked with curriculum and for this purpose the Board of studies and other relevant academic bodies be activated; universities may bring in amendments in their statutes to facilitate extension. Extension work by the students and teachers should also be given due recognition by the universities and colleges while determining their overall merit.

The concept of curriculum relevance draws support from the fundamental commitment of a society to plan and utilise education as an instrument for national development through a process of altering existing social relationships. The idea of such a curriculum development strategy is based on the belief that the existing physical, manpower and technocratic resources in universities and colleges could be firmly utilised for providing additional educational experiences for the student population and new educational experiences for those in the community who have not had access to such resources for one reason or the other. The educational system must begin to critically reconsider the relevance of its regular (degree-based) teaching courses, teaching techniques, evaluation procedures and the dimensions of student welfare. The community-orientation in higher education must reflect a movement of inward change; in the absence of such a change, most efforts would again tend to acquire a marginal status. A time has come when the universities and colleges must relax some of their formal rigidities and begin to view the provision of integrated educational experiences for their students, teachers and members of the community.

Community College

The community college system has attracted the attention of many educators as a thoughtful approach to solve some of the educational problems. The community college system serves many purposes. These may be characterised as : occupation education, transfer education, general education, guidance and counselling and community services. The main programme is designed to meet the needs at the middle level of business, industry, government and services such as health. The occupational curriculum contains a significant amount of instruction aimed at enhancing the social, economic, civil and personal competencies of those enrolled. Education is linked to both employment and life, making education socially useful and productive. The aim is to serve the requirements of development-national, regional and local. Such institutions may not create employment directly but they do provide marketable skills to their graduates.

It may not be wrong to say that the community college education is the extension of Gandhiji's idea of basic education made applicable at the post-secondary level. In 1937 he said : "I would revolutionize college life and relate it to the national necessities."

Educational planners may consider the possibilities of initiating a programme of community colleges in the country.

Universities and Continuing Education

The concept of Continuing Education gains support from the belief that education is not terminal in nature and that it works as an effective instrument to bring about a just and equitable social order through a meaningful intervention at various critical stages in the life of the people. In the framework of formal system, education had often been viewed as terminal in nature. There is minimum flexibility in learning-styles, learning situations and curricular options. The manner in which the formal system of education expand-

ed in most countries of the world generated certain inequalities to access to its facilities ; these inequalities sprang from social, economic and cultural factors and tended to strengthen the same in a vicious cycle. Our efforts in continuing education at the moment are too small to make a significant impact. It is also caught up in some conceptual and operational ambiguities. Operationally, the service function and the educational function of continuing education does not seem to demonstrate proper understanding. This lack of understanding has often tended to decrease the educational intensity of continuing education programmes. The universities should seriously examine this problem.

Many universities are participating in the programmes of adult and continuing education. There is an urgent need to promote wider and better understanding of continuing education. This need is being increasingly felt in view of the steady rise in the implementation of such programmes. The academic community should promote a dialogue among themselves on the concept, theoretical framework, organisational characteristics and implementational framework. The planning of continuing education programmes poses a big challenge. Educators need to get away from their discrete-point subject-based view of education to a problem-oriented focus. The discrete-point knowledge would have to be woven around and tailored to the dictates of a particular learning problem. Universities have prepared certain models of this type which should further engage the attention of the academic community. Operative models suiting to the needs of the various critical groups is another area of concern. Research in continuing education in this country is at its minimal or almost non-existent. Universities should identify ways by which a strong research infrastructure can be created in various universities/colleges. There is an urgent need to consolidate and strengthen programmes of adult and continuing education in the universities. Universities should also play a leadership role in the implementation of the adult & continuing education activities through colleges and other agencies.

Continuing education programmes should be related to the important national priorities, such as, education for out-of-school youth, population education, environmental protection, energy conservation, science consciousness in the masses, health education and the need to upgrade earlier stages of school education through school adoption programme, special programmes for women and educational programmes for the tribal population, etc.

Conclusion

Let me conclude by stating that universities and colleges by their commitment to community education programmes have chosen to grapple with the dynamics of development of the weaker sections of society. The dynamics of this participation in the developmental process offers universities and colleges an opportunity to intellectually mainstream themselves with the people. Rubbing shoulders with the common people should help us to shed the traditionally voiced accusation of universities being ivory towers. Their closeness to the genius of the average Indian would help in the growth of an indigenous intellect. Universities and colleges must give to themselves this new development ethos in order to be more meaningful in the framework of a developing society.

EDUCATION, SCIENCE, TECHNOLOGY AND INTEGRATED DEVELOPMENT

Hari Narain

I am grateful to the President and Executive Committee of Indian Adult Education Association for doing me the honour of asking me to deliver the Zakir Husain Memorial Lecture this year. It is very befitting for the Indian Adult Education Association, to institute an annual memorial lecture to remember Zakir Saheb who was among our foremost educational philosophers and statesmen, and while doing so, to sit together and ponder over problems of education with regard to the development of our countrymen as a whole—a cause which was so dear to him. Such a periodic revaluation, redefining and sharing of our common concern, our efforts and perspectives is indeed a true way of paying tribute to such a great personality.

It was in 1964 that Dr. Zakir Husain had appealed to the universities to enter the field of adult education. In all humility, I take this opportunity to appeal to you to extend the scope of education to include the role of science and technology in the rural development programmes of the country, and I have chosen to speak on 'Education, Science, Technology, and Integrated Rural Development'.

I have specifically chosen this topic to share some of my views and convictions that have born out of my own experience. I have had the privilege of being intimately associated with (a) teaching and management of university education, (b) scientific research and its institutional growth, (c) planning, exploration and management of natural resources and (d) nation's first and perhaps a pioneering experiment of adopting

a district for a multi-pronged application of science and technology towards its development. The experiment provided me with the insight and first hand knowledge of the complexities and their dimensions, their interwovenness and the obstacles at various levels in achieving the required results. While deliberating on these issues one also feels at home here, as Mhow—located in the middle of the traditionally rich Malwa region of our nation's heartland Madhya Pradesh—offers quite a symbolic setting where our city and village cultures overlap.

Facts of Our Lives

In order to initiate the discussion on this topic, which I propose to take wholly and in an organic fashion, we should begin from the facts of life, that is, the conditions in the rural and urban scenes which are the two facets—perhaps two different cultures of our national set-up.

Urban Areas

About 28% of our population stays in urban areas and 55% of the national income and wealth also lies there. In fact, 50% of the national wealth and income is concentrated in the hands of only 10% of the population. The urban areas also form the base of our higher learning, intelligentsia, power, industry and decision-making process. It is here that most of the modern facilities are available, and they in turn provide the infrastructure for more and more modernization, unlike rural areas where—because they lack even the basic amenities and infrastructure—new developments and technological gains cannot be implanted. Urban areas, however, have their own problems like :

- unemployment
- insufficient ratio of welfare service and other civic facilities with respect to population
- exodus from rural areas

- industrial and other pollution
- unawareness, illiteracy and lack of desired skills among the labour class
- wide gap between the quality of life of the elite and the middle and lower class.

Rural Area

It consists of approximately 72% of the population with less than 45% input of the country's income and wealth. It acts as the base for our agricultural production, dairy and vegetable outputs and other cottage industries. At the same time it is here that one faces the severest of challenges posed by poverty and ignorance. The major problems are population growth and lack of (i) awareness, (ii) service and welfare facilities, (iii) land reforms, (iv) irrigation and drinking water (v) health and hygiene, (vi) unemployment, and (vii) judicious distribution of the economic gains. In addition to this, there is also an almost inhuman exploitation of the weaker and backward sections, including women, by the middle and higher class for vested interests.

A Vicious Circle

The contemplated benefits meant for average people and particularly for the poverty-stricken, backward and weaker sections are not reaching them to the degree and extent these have been planned and for which the provision has been made. The problem lies in the machinery of executing and distributing agencies for these schemes which seem to fall prey to the individual or group interests and corruption. Hence, benefits of such programmes for the poor, not only do not reach them but leave them poorer. The greater the poverty, the more will be the ignorance and backwardness for obvious reasons. And it is the poverty and ignorance which not only sustain but accentuate the biggest hurdle in the nation's growth, namely, the rate of increase of population as

against the rate of the economic growth. In fact, all that is achieved during a plan period is nearly wiped out, in cumulative terms, by this 'crippling effect' of population growth. This ratio of economic growth and population is directly linked to poverty and ignorance, putting us back into a vicious circle.

A recent analysis by Mr. J.D. Shukla I.C.S. (Retd)—while speaking on the occasion of Dr. Rajendraprasad Memorial Lecture has identified the following four hindrances to our development :

—population growth

—corruption

—indiscipline

—casteism

Further, he points out, there is (a) an unhealthy alliance of the urban upper middle class and the *middle-level* farmers who enjoy power and patronage while exploiting the lowermost section of the population, and (b) 50% of the national income and wealth is concentrated within only 10% of the population.

Our foremost objectives are, therefore, to remove the hindrances to development and find ways to break unhealthy alliances and unequal distribution. Worldwide experiences have shown that

—a positive correlation exists between knowledge and skill (education) of people and their prosperity, and

—it is indisputable that judicious investments in technology and science will lead to production of goods, and thus higher levels of economy.

It is, therefore, clear that one of our heaviest investments

not only in terms of finances but also in terms of manpower and political commitment will have to be made for the overall *growth of education*—in the broadest sense of the word—which imaginatively imbibes science and technology in all of its three channels, namely Formal, Nor-formal and Incidental.

Our Social Ideals and Objectives

We are committed—as a society—to establish a socialist democracy which imbibes the best in our cultural heritage with the Western concepts of use of science and technology for development. The society aspires not only to provide the basic amenities of food, shelter, clothing, health-hygiene, communications, etc., but even time for leisure and entertainment. We also envisage sufficient opportunities and environment for allowing one to explore his total potentialities towards the multi-dimensional fulfilment of his aspirations.

Unfortunately, all the above idealistic and Utopian concepts sound hollow, if one looks at the actual facts of life. This gulf between *objectives* and *reality* makes one ponder as to why we are failing in spite of planning and investments, and a large number of educationists, scientists and technologists, economists and social scientists available in the country.

Value System : Existing and Desired

The question raised above is linked with the general degradation of our value system and our moral fabric. It is this which gives rise to hindrances like corruption, unhealthy social dynamics, indiscipline, indifferences, apathy, which in turn, result in a lack of sense of duty, dedication and commitment.

In addition to these factors, there is another dimension to the value system. It is a dilemma or uncertainty as to what kind of developed society and social structure is envisaged for India against the background and experiences of industri-

ally and technologically advanced countries practising either capitalist or socialist philosophies. While these two have their own history, economic philosophies, geography and other environmental factors they also have their own larger interests like dominance of world market and expansion of ideologies.

It can be argued that all that is western is not necessarily noble and lofty, and good for mankind as a whole. For example, the unclear armaments, environmental pollution, reckless energy consuming life styles and attendant consumerism and commercialism, grossly materialistic and self-centred attitude to life, are aspects which are being criticised in many parts of the world, including western countries which are indulging in them.

For the third group of recently emancipated countries like India, the value system of western or communist countries due to their affluence, and scientific and technological power gives rise to crisis of identifying the goals. For example, even our concept like 'quality of life' has to import a large number of parameters and indices belonging to the Western scenario. We have, therefore, to give a very serious thought as to what are our own indigenous concepts and dreams of the society we envisage, based on our culture and heritage, history and geography, skills and resources. It is important to understand this because once we put the total effort for development—without clearly identifying the blueprint of our social dream—we may land ourselves in painful and constrained situations from where it may be difficult to retreat.

Quality of Life and Basic Framework

Even the elitist, intellectual and the neo-rich classes do not seem to be conscious of the dilemma, and if they are, they hardly give any heed to it, because of their short term self interests.

Debates and discussions among the intellectuals, the

planners, the politicians and the bureaucracy on these vital aspects of national development are essential in identifying the broad framework—even though, admittedly, the process is dynamic and the concepts will keep on evolving.

Concept of Integrated Development

While the policies and broad framework remain to be debated, there is certainly a general agreement that we need an integrated development of an individual and by implication, that of the society and the country. By *integrated* one means all the aspects of modern human existence (economic, social and metaphysical) and their inter-relationships. Here we look forward to :

providing proper environment and opportunities, and

inculcating proper attitudes for the masses to attain both *Manpower and Manhood*.

By manpower one implies the skill and training required to increase one's efficiency and economic status, while by manhood is meant the 'self-reliant, self-generating thinking individual' who is fully conscious of his social rights and duties.

There is hardly any denying that in order to generate manpower and manhood for an integrated development of an individual (which is an index for a holistic growth of the society) the most crucial parameter is education.

Education

Any activity of human life has to be related with man's existence. The latter we can broadly categorise as :

Economic (sustenance level)

Social (relationship with other men, groups and surroundings)

Philosophical (psychological)

Attainment of a reasonable degree of economic level is essential for human existence. So, while we think of education we should be able to correlate its gains and usefulness to the above mentioned aspects of human existence.

The twentieth century has seen revolutionary changes in education all over the world. But in India, we have continued with the old British pattern without any relevance to the needs of our society. We have to give foremost place to education in its widest sense and which has to permeate all walks of life from the cradle to the grave.

But in order to comprehend its role for a specific purpose and a specific section of society, one has to use the system of education best suited to the needs and aspirations of the people, their beliefs and traditions, economic conditions and intellectual needs.

One can, of course, derive lessons from the experience and experiments of America, Europe, U.S.S.R., China, Japan and Latin American countries, but we have to translate those and metamorphose them with the heritage, necessities and the constraints of our national set-up.

Why and What Type of Education ?

Questions such as why and what type of education for a certain social set-up have to be answered with respect to the specific needs. The goals and purpose of the non-formal or continuing adult education in America, for example, are bound to be different from those in the different parts of India. Whereas in the former case, it is generally towards a fuller development of *manhood* that is, self-reliant, self-generating, thinking individual, in the case of a developing country like ours, it has to be primarily directed for the economic growth and eradication of poverty and illiteracy. Thus, in present circumstances, we may have to choose *manpower*

as the educational priority for the rural masses and illiterate urban labour class.

It is only for a small percentage of our people, consisting of the elite and the intellectuals centred invariably in urban areas, that we have to strike a harmonious balance between education for developing *manpower* and *manhood*.

Such a deliberate choice of educational objectives may be criticised to some extent justifiably but (imagine where 48% of the population still subsists below the poverty line) what should be our immediate purpose and task in education ?

We, therefore, divide education in three categories which generate

Information and knowledge (to fight against ignorance);

Training and skill (to increase production and efficiency);
and

Understanding (to build self-generating thinking individuals).

We should assign priorities to the first two above for creating *marketable skills*, increasing the production and hence the wages. It is only in this way, though rather restricted, that education will be able to make a first order dent in the poverty. An optimum or critical level of sustenance has to be provided before one can go to the higher levels of understanding and awareness. Academically speaking, it may be a delicate preference but our present circumstances and the urgency for change do call for a judicious choice of our priorities and purpose.

From such a point of view, while on the-job training (on the farms, in factories, workshops and other places of labour utilization) and relevant education will provide the much needed manpower for overall efficiency, a further symbiotic

package of information and knowledge can cut across the darkness of ignorance. Ignorance as an antithesis to education is also multi-dimensional, affecting all aspects of an individual's life and his relationship with family and society. Further, ignorance is responsible for their unawareness about (a) family planning, (b) health-hygiene, (c) communication, (d) benefits that can accrue with a proper utilization of the existing maze of schemes and programmes for the uplift of the lowermost strata, and (e) social rights and ways to acquire them.

The *information-knowledge* and the *training* part of education, therefore have to make a very crucial contribution. With an effective use of these channels of education, we may be able to address meaningfully the first two most dominating and depressing problems—'poverty' and 'population growth'

It need not be emphasized that on-the-job training and imparting of appropriate knowledge-information are at the very heart of adult education and concepts like learning society' and continuing non-formal education.

The *understanding and self-generating thinking* part of education becomes important as soon as one breaks the 'poverty-barrier'. Therefore, for the middle and upper class, it is essential that the emphasis is laid on in-depth understanding, so that education could serve its ultimate purpose of liberating a man from visible as well as invisible bondages. Understanding alone allows one to think, question and search for answers independently without any oppression, whatsoever.

Besides striving for such noble objectives, education will do great service by providing an understanding to an individual of 'his social-context'. That is, the comprehension of the urgency, the necessity and benefits of one's contribution (in terms of duty and responsibility) to social uplift. Such an understanding alone can attack the evils like vested interest, self-centredness, corruption, indifference and apathy to fellow human suffering and exploitation of weaker sections. My

belief is that from such a comprehension alone can emerge the idealism, dedication and commitment that all of us are looking for, and without which we cannot succeed, whatever may be the other inputs.

How to go about it

Examples of green revolution, of Pokhran nuclear explosion, of Aryabhata and Bhaskara, and the latest one of ASIAD confirm that given the political will and commitment we are capable of achieving outstanding time targeted results. The goal of education for human development has also to be pursued in a similar vigorous and intense manner, if any worthwhile outcome is to be expected.

The commitment has to be not only at the highest political level but should also flow down through the whole chain of execution of plans and programmes right upto the grass-root level where the *agent of plan* meets the *weakest representative of the society*. Unless such a spirit of idealism is kindled and also jealously guarded, there is always scope that efforts get wasted, and energies and inputs are diffused.

Some monitoring and checking system has to be built in to fight the fissiparous tendencies and to see that the well-meaning plans are pursued in all sincerity to their logical ends.

Appropriate Education

Owing to the prominence contemplated for the productive and wage earning work—while learning continuously one comes here very close to the Gandhi ji ideals. Accordingly, village has to be taken as the basic entity and one has to see how best to evolve the villages and adjacent areas or a cluster of villages or a block—to the extent possible—into a self-sustaining and a viable economic unit

For this, suitable curriculum, syllabus, methodology and team of instructors/teachers have to be evolved. The aim is

how best to impart the education *in situ*. The instructors/assistants/teachers have to identify (should also have the feel for) the day-to-day problems at various levels of our village life and try to sort them out efficiently and effectively. For sociologist, social workers, educationists, cultural—pundits, psychologists, lawyers, scientists and technologists here lies a great challenge in designing appropriate methodologies which are realistic and feasible even in the downtrodden conditions of our village set-up. An optimum and harmonious blend between the traditional and new outlook has to be arrived at, which can be imbibed by them without any mental reluctance or apprehensions. Thus, it has to be motivating enough and should be given in an attractive and comprehensible format so that the villagers (or illiterates, in general) find it interesting and get sufficiently inspired to adopt it. These educators will have to win their confidence.

Indoctrination and Gandhi's Message

Though this word is usually used to express the lack of freedom and is much abused, still I would like to draw your attention to one fact, that is, in capitalist (here, the method is subtle) as well as socialist camps there exists a deliberate policy to make the student aware of the society's objectives and his role in it. In fact, when we prepare somebody for any job we have to train him sufficiently for delivering the expected goods. Is it not, then, strange that while we expect everybody to do his 'bit' for national uplift, identify his role and dedicated to it sincerely, in our educational curriculum, there is no explicit emphasis on it? We, perhaps, presume that our education is capable of bringing them to the level or stage where they themselves become conscious of their responsibilities towards society. But let us ponder over this—is it true? Does not the experience speak the other way? Do the products of our 'knowledge industry', that is, university and other higher learning organisations have this understanding? In my opinion except their own specialization and preparation, to attack the problems in their narrow areas of interest and to earn their bread and butter on its basis, there is hardly any

trace of social purpose. In fact, in most cases, they are indifferent to it. It is here, that one likes to remember persons like Mahatma Gandhi and Zakir Husain, and feel that their guidelines and ideas are embedded forthwith in our educational syllabi as an integral part of our higher education.

Versatile and Flexible Information and Training

While emphasizing the need for information and training for efficiency, jobs and productivity it can be argued that by this procedure we may not produce an 'intelligent man' but a 'robot' or a 'product' which is fit to do a specific job only. Such a doubt is not totally unfounded. Because a high degree of specialization can certainly result into this. Hence, there is a need to keep the information and training packages 'sufficiently versatile and flexible'. This is because once a given environment and its pressures change (as is most likely owing to the rapid development in technology) the requirements will also change and at that time the people should be able to adapt themselves to the challenge of the new situations. In other words, the need for generation of a symbiotic capacity has to be kept in mind.

Use of Technological Appliances

The radio, TV and computer can play a great role in increasing the efficiency and coverage of the programmes and their variety. Imagine, we have about 560,000 villages with more than 16 languages and associated dialects, and more than 23 broad cultural settings. The TV lessons and programmes can be moulded into an interesting and effective mode of *training* and *knowledge-information* parts of education along with the use of a regional computer. The role of computer comes in as a data bank and data retrieval system for programme development and translation to cater to the multi-dimensional activities of an area. SITE experiment and new satellite series planned for the 80's are steps in this direction.

Integration with Folklore and Tradition

Acceptability and proper assimilation of an educational programme is vital for it to be meaningful. This can be achieved to a great extent provided it is given in a manner that is most easily comprehended by the receptor. Teachers and educationists will have to evolve courses that make an imaginative and enlightened use of our tradition and the fabric of folk life. The mode of teaching or presentation could also be selected from among the various media of folk expression in the region.

The Dichotomy of Rural and Urban Areas

An overall perspective is an important factor in attaining the understanding of an issue. The youth (rural and urban) of the country (here I am addressing to the formal part of the education and institutes of higher learning) has to be made aware and appreciative of :

- basic structure and dynamics of our society (its historical development in comparison to other societies like European, American, and Japanese);
- the problems and difficulties being faced on the two sides; the advantages, disadvantages and complementarity of the two sets; and
- the challenges of converting the disadvantages to advantages, using scientific and technological methods.

Such a preparation can go a long way to check one-way traffic from the rural to the urban areas. It will also generate a healthy circulation and creative feedbacks.

Awareness of Population and Environment

As already noted these two form the major and first order problems. While one is related with our economy, illiteracy

and welfare, the other can be a challenge to our very existence. Even the developed countries with far greater literacy rate and powerful media are facing acute problems of environmental pollution and ecological imbalances, because of industrialization and other demands of modern ways of life. In view of this, the developing countries which have far inferior literacy rate, awareness and often unplanned, reckless mushroom growth of industry, deforestation, etc., are likely to face in coming decades, a difficult situation of far greater degree and extent with regard to the environment and ecology. Education has a large responsibility to shoulder here. It is welcome that the Government has recently recognised it by proposing suitable educational courses and establishing a full-fledged department in the Government of India. But the other channels of education like adult and non-formal will also have to keep a vigilant eye as to how best a responsible attitude towards the environment or mother earth could be generated.

Similarly, the obstacles posed by the population growth on wages, welfare, employment, other gains of planned growth and quality of life need to be explained if the requisite in arresting the poverty has to be made.

Quality of Education

Since Independence, at least in urban areas and among the upper and middle class the extent of education has grown at a rapid rate. Along with the professionals we have a large number of so-called degree and diploma holders. But as has been pressingly realised in recent years that somewhere in this type of *education-expansion* programmes we have lost control over the quality of output. It cannot be overemphasised that at each level a minimum quality of comprehension, sensitivity, awareness and actual expertise has to be generated, otherwise the effort will be a total waste. Thus, while striving for quantitative aspect, a close monitoring of the quality is a must. I have already stressed and enlisted the other benefits that accrue from a higher level in-depth understanding.

Science and Technology

Why?

Aristotle had said that upto the age of 14 education should consist of disciplines whose foundations are relatively certain. Basic sciences and mathematics top in this category in contrast to other disciplines like sociology, economics, etc', where-in the concepts are in a constant state of redefining and refinement. And hence these subjects will require a certain degree of maturity from pupils. The above reasoning does form the basis for introducing more science and mathematics in primary and middle-level curriculum. In addition, the following advantages are also clearly linked with science and technology :

- Our age can, indisputably, be called the age of science and technology because every facet of our civilization is being significantly moulded by it. Hence, individuals have to be prepared to understand and exploit this tool for both their betterment and that of the society.
- In economic terms the development and growth can receive faster, larger coverage along with the addition of newer dimensions by scientific and technological inputs.
- It allows an evaluation and judgement of tradition, beliefs, superstitions, pettiness and other activities, on the basis of its certain-and-objective framework which is founded on well-understood forces and processes of nature.
- Makes us less self-centred by correlating us with the earth, planetary system, universe and their evolution. It, thus, generates a universal humanist orientation into philosophies of our lives.
- Provides us an attitude, temperament, methodology and above all courage which is so essential to attack various problems in a systematic and logical way.

- It proves the universal commonness of the *Homo sapiens* and hence gives an unrelentable argument against any thought or idea which divides men into rival and unhealthy competing groups or societies.

Thus, from all the three points of view of educational requirements, namely, economic, social and philosophical, science and technology provides inputs whose usefulness and significance are greatest. It is, therefore, no wonder that the whole fabric of formal education is leaning so heavily now-a-days on the science and technological aspects.

Indian Science and Technology

To appreciate the above points in concrete terms let us have a look at our own achievements in the field of science and technology and their consequences on society. A recent note prepared by various science and technological organisations of the country enlists the following :

Scientific and technical manpower in the country is now estimated at 2.5 million. About 160,000 qualified scientists and technicians are produced every year.

Since Independence, major strides have been achieved in the development of a strong industrial base for the country, which has been supported by a policy of planned investment. Rapid progress has been made in the production of steel, non-ferrous metals, cement, paper, chemicals, fertilizers, as well as heavy engineering and manufactured goods. These include shipbuilding (India is among the world's top ten shipbuilders), the construction of offshore oil drilling platforms and equipment, locomotives, earth-moving machinery, tractors, buses, and other commercial vehicles. India has also developed its own technology for petrochemicals and plastics.

Steel production from six major steelworks has more than doubled in the last 20 years to 7 million tonnes a year.

Thirty years ago, it is estimated, only some 3,000 villages received electricity. Today the number has risen to 300,000. The total installed generating capacity has increased from 2,300 MW in 1950 to approximately 33,000 MW.

Science and engineering have been instrumental in developing the energy programme, where considerable efforts have been made to improve both generation and transmission by building new dams for both hydroelectric powers and for irrigation purposes. Hydroelectric generating capacity now totals nearly 12,791 MW compared to only 560 MW in 1950.

Following a lead from Jawaharlal Nehru, who once said, "Make watches and you can do any precision work", Hindustan Machine Tools has diversified into watch-making and has one of the largest and most sophisticated automatic watchmaking production lines in the world.

Applied rural technology, of which the bullock cart modification is typical, is one of the most important areas of research in the country.

In the last 30 years rice production has increased from nearly 20 million tonnes to 54 million tonnes a year, wheat from 6.6 million tonnes to 36 million tonnes and sugar-cane from 56 million tonnes to 176 million tonnes, which makes India one of the largest cane producers in the world.

The breakthrough in crop production and better yields is the result of systematic efforts by scientists working at the many research institutes and universities. They have developed new methods of plant protection, breeding resistant varieties of crops, and producing more efficient insecticides.

The substantial expansion of medical services and improvements in infant nutrition and major reductions in communicable diseases have already increased the average life span by about 20 years over the last quarter century.

The fight against malaria (once there were 75 million cases a year, now there are less than 100,000), the eradication of smallpox, and the virtual elimination of cholera, have all contributed to greater life expectancy. Half a million people still die annually of TB, an age-old scourge, but new methods of domiciliary treatment and chemotherapy have been particularly effective. There is also a new sense of hope for treating the three million cases of leprosy in the country, about one fifth of which are infectious, and much field work is being done on anti-leprosy vaccines.

Space programme, which began only 18 years ago, is the most advanced of any developing country and aims at bringing the maximum benefit to the maximum number of people in the shortest time. But one of the major aspects will be an almost immediate improvement in communications, particularly by telephone.

Apart from television and radio transmissions, it is expected to broadcast early warnings of monsoons and floods to rural areas. By the end of the decade India hopes to replace all foreign built INSAT spacecrafts with indigenously designed and constructed satellites.

Efficient communications are essential not only for disaster warnings but also for educational purposes, generally in rural areas. A working rural community television network would be a considerable breakthrough which would have immediate benefits from an educational point of view for both children and farmers, as well as for spreading information about family planning. (It may be remembered that unless more people take to family planning the present population of 660 million will double in the next 37 years).

India has reached a stage where it has a sound infrastructure of industry and know-how to support and sustain all the activities in the nuclear field. India is amongst a handful of countries in the world and the only developing

country, to operate the complete fuel cycle right from uranium exploration and mining to its conversion to nuclear fuel, its reprocessing and the final management of waste. Today, there are four research reactors in operations with the fifth one under construction at the Bhabha Atomic Research Centre, Trombay. There are also three power reactors in operation, one is being readied for operation, and four are under construction. The above attainments should be seen in the light that the total expenditure on science and technology represents about 0.6 per cent of the gross national product.

S & T IN ADULT, CONTINUING EDUCATION

For precisely the same reasons, as given above, we have to imbibe science and technology in these two channels of education as well. And this point has to be looked into a little carefully while programming the courses and methodologies. In this regard, the following could be some useful concepts and experiments :

Kutir Vigyan and Takniki (Cottage Science & Technology), Vijyan Yatra (Jatra), Hoshangabad experiment (of Dr. Anil Sadagopal) for rural science and technology, equivalence of workshop with place of workings for handicrafts as Thomas Huxley has pointed out, and full exploitation (by identifying the scientific basis) of the existing folk wisdom (indigenous medicine, housing, etc.,)

However, from my point of view the items listed previously will remain mere words without a proof. Therefore, I give below, a brief account of how the scientific and technological inputs have been focused and shaped for development purposes.

The Karimnagar Experiment

The Council of Scientific and Industrial Research (CSIR)

selected Karimnagar, which is one of the backward districts of Andhra Pradesh, to usher in economic development through application of science and technology. The project was to be based on the human and natural resources available, following an integrated approach so as to cover land, soil, water management, agricultural practices, public utility services like roads, buildings, health care, nutrition, family planning, agro, forest and mineral-based industries, utilisation of waste materials, formal and non-formal education which pervade all the human activities of the community.

Karimnagar district has an area of 11,800 sq. km. and a population of 1.96 million people (1971 census). The gross value of agricultural output per hectare (1967-68) was Rs. 706. The 1971 literacy figures were 15.3%. The per-capita domestic product for 1968-69 was Rs. 450 per year.

During the first phase in 1972, the CSIR prepared a plan of action in three sectors : Civil Engineering; Industries; and Natural resources.

The project report envisaged construction of roads, housing, sanitation, water supply and gobar-gas plants in the civil engineering sector. The industries plan included a large spectrum of projects based on raw-materials available in the district, including chemicals, oils, pesticides, food, leather, metallurgy, post-harvest technology and medicinal plants.

In both these sectors it was envisaged to construct cheaper and durable roads, rural housing, plants and projects to establish technologies and processes for rural development as a first step to demonstrate their viability and acceptance to the community.

Natural Resources Sector

The project on natural resources was undertaken by the National Geophysical Research Institute (NGRI) of Hyderabad and the Indian Photo-Interpretation Institute (IPI)

of Dehradun. Even though a river-basin or a sub-basin is a natural unit for land, soil, water studies, the district was taken up for CSIR experimentation for administrative conveniences. The assistance of the Geography Department of Osmania University was obtained through a CSIR project for preparation of the present land use map of the district. The aerial photographs obtained by the Survey of India during their normal process of updating of topographical maps were used by the Osmania University as well as IPI. The photo-interpretation techniques with limited ground checks are extremely valuable for geological, hydromorphological, forestry and soil surveys and these tasks were carried out by the IPI. Financial assistance was provided by Andhra Pradesh Government. The mapping and surveys were undertaken roughly on a scale of 2 inches to a mile which is normally the scale on which aerial photography is carried out. The maps have been subsequently reduced to 1:250,000 scale for convenient presentation by the IPI and printed by the Survey of India, Dehradun. The studies carried out through different disciplines consist of preparation of geological, hydromorphological, forest and soil maps. The multi-disciplinary approach has been subsequently applied by combining the various studies resulting in a final map of land resources of the district. Briefly, the basic approach consisted of preparing the present land use map of the district and the land resources map based on interdisciplinary studies, and optimization of indicated and inferred resources.

Based on the soil characteristics and availability of surface and ground-water, recommendations have been made for different types of agriculture practices and exploitation of ground-water, minerals and limestone quarry, etc. The need for detailed ground geological, geophysical and geo-chemical investigations are indicated in the Geological map to explore and establish the resources of coal, copper, iron, molybdenite and amethyst.

District level approach

The Karimnagar project for natural resources has estab-

lished an approach for district level planning. It gives the present land use patterns of the district and the optimal land utilization, which need to be attempted in the shortest possible time, depending upon the financial and manpower resources. The Land Resources map indicates not only the agriculture potentialities and their optimisation but also shows areas where different types of need be cultivated including social forestry for firewood; pastures could be established to provide grazing land for cattle and to arrest soil erosion. It indicates areas where immediate attention needs to be given in respect of degraded forests as well as in areas subject to fast erosion. Areas which are getting slowly eroded would need long-term planing to stop erosion. The natural drainage pattern of the district will provide guidance for waste disposal and sanitation. The map also indicates areas where ground water needs to be exploited and the extent of withdrawal will depend on scientific studies to establish water balance and water management practices.

Depending upon the potentialities of agriculture, timber and other raw materials and waste products, appropriate technologies including post-harvest technologies, grain storage and transportation, food processing, small and medium scale industries suited to the district could be harnessed.

Depending again upon the optimisation of land use and the distribution of present population appropriate growth centres, roads, transportation and marketing facilities could be established. Scientific agriculture together with industries to produce basic necessities of life would provide gainful employment to a large section of the population.

One formal conclusion at which we arrive from this experience is that instead of a piece-wise, isolated, compartmentalized approach one has to look into the whole problem of rural development in a intergrated way. The task is certainly complex with interdependent and interwoven evolving aspects, and unless there is a holistic approach to it, I am afraid we may end up blaming each other for insufficient

support. The rural development concept should be considered as a single entity and our contributions are all part of it. Hence, naturally, it is the duty of all of us to see that the final results are *really* achieved in time. This outlook is essential and reduces the burden of too much expense and effort given to monitoring and coordinating of the maze or jungle of programmes launched for rural uplift.

Integrated Planning and Development

In spite of 30 years of experience of planning processes and development in various fields of economy, the disturbing features of the present situation of the country are :

- (1) population of 650 million people likely to approach 1,000 million by 2000 A.D.; over 75% depending on agriculture in rural areas; 50% of the population living below the poverty line;
- (2) third country with largest number of scientists and technologists with inadequate employment potentialities;
- (3) recurring droughts and floods; agriculture largely depending upon the monsoons; 200,000 villages still without drinking water within a radius of 1 mile.
- (4) nearly 20 million people are unemployed and 200 million partially or seasonally employed.

Rough projections of our essential demands by 2000 A.D. indicate that : (1) food requirements will be nearly doubled; (2) requirements of all types of minerals for essential production will be about 3 to 4 times, and (3) energy requirements will be about 6 to 8 times of the present production.

Taking the district as an appropriate administrative unit, the grass-root planning and execution in an integrated manner can be carried out only through the process of optimisation of the land use.

In a recent address to the scientists, technologists and educators of the country, Prime Minister Indira Gandhi stressed that priority needs to be given to : (1) removal of poverty; (2) national security; (3) self-reliance; and (4) removal of unemployment.

These are pressing problems of large magnitude and need immediate attention. The tasks can be undertaken with the natural resources and the manpower available within the country. It is necessary to apply the known and proven technologies on a massive scale to the basic needs programmes to remove poverty and unemployment. Specific targets will have to be laid down on a five-year plan programme for :

agriculture, storage and transportation, of food grains, post-harvest technology, food processing, etc.;

health, hygiene, sanitation, nutrition, preventive and social medicine;

roads, housing, appropriate technology for small and medium scale industries based on available raw materials including gobar-gas plants and social forestry to provide energy resources, and

all aspects or relevant formal and non-formal education.

The concept of Task Force teams to district level will have to be developed to plan and execute the district, block and village level programmes.

Task-Force Strategy and Action Plan

The concept of grass-root planning and execution at village, block and district level must involve a number of central agencies and research institutions of the country in taking science and technology to the people, primarily in the areas of health care and family planning, nutrition, hygiene, sanitation, clean drinking water, land, soil, water management, agriculture, post-harvest technology, storage and trans-

portation of food grains, agricultural economics and marketing and appropriate technologies for small and medium scale industries suited to the natural resources of the region. The plan will provide gainful employment to a large number of persons of various categories including highly qualified people from central agencies as members of the Task Force teams to arts and science graduates, intermediate and high school pass students, skilled and semi-skilled workers. The concept will have a multiplier effect and will generate greater production, both agricultural and industrial, which in turn will further generate gainful employment potentialities.

Out of 400 districts in the country the experiment can be tried in 20 districts (possibly one district in each State). The district Task Force team should consist of :

One Surveyor from Survey of India; One Geologist from Geological Survey of India; One Water Expert from Central Ground Water Board or Central Water Commission; Two Soil/Agricultural Scientists from ICAR; A Forester from F.R.I; Two Primary Health Care and Family Planning Doctors from ICMR; Two Technologists from CSIR; One Economist; One Social Scientist; and One Educationist.

The team should consist of young, dynamic persons with at least 8 to 10 years' experience in their respective fields. One of the senior persons of the team could act as team-coordinator. The team will have to work in co-operation with the district authorities and the Central and State level planning committee/groups.

Each of the 13 members of the Task Force team will require about two M.Sc., and 10 B.Sc./B.A. level workers who should normally come from within the district. Each of these B.Sc./B.A., level workers will require about 50 intermediate/high school level persons each of whom in turn will require about 100 skilled workers and unskilled workers. The Task Force team in one district will thus generate an employ-

ment potential for 13 highly qualified persons on an all India basis coming from the main central agencies/organizations/research institutions and employment of over 2900 persons, possibly all from within the district. The Task Force will involve all the State agencies in the district, concerned with the various aspects of health and family welfare, agriculture, cottage and small scale/medium scale industries and education.

The Task Force approach will generate agricultural production, supply of essential goods and services through cottage and small/medium scale industries, and provide many social benefits which would considerably outweigh the financial inputs.

The aspects of primary and secondary education, mass communication and extension programmes in education will have to be essential components of mass enlightenment and development of scientific temper which will have to cater to the needs of the various sub-sectors with which the district Task Force team will be concerned and which will have to ensure bringing relevance to all types of education including formal, nonformal, adult and incidental to meet the needs of the people. The extension work, education and training in relevant fields, practical demonstrations and involvement of the entire village and block-level people in the integrated development of the district will be the main focus of the team and its workers.

The Task Force team will need orientation in integrated planning and execution to ensure healthy growth of all sectors. The National Institute of Community Development in Hyderabad and other Central and State level agencies could organise such training programmes for the Task Force members who in turn will train and generate their own team of workers.

Summary and Conclusion

Before concluding first I wish to briefly give the salient

features of this discussion :

—Education should be regarded as basic input for economic growth, and raising the basic and functional literacy. In the words of Shri J.P. Naik “the central issue is education and standard of living” or as Mrs Rajammal Devadass has put it, “the adult education is not an end in itself, but it is a means to an end. That is development of men—to which goal the social education is directed”.

—To bridge the gap between work, development and education.

—We have to have the science and technological inputs in the curriculum and methodologies in all the three channels of education (Formal, non-formal and incidental.)

—The inculcation of scientific temper and attitude.

Clear identification of the role of science and technology in an integrated perspective for development, and inputs of suitable science and technology in all facets of village and rural activity.

—Enough attention needs to be given to the decentralisation of planning with concepts like micro-level and grass-root planning in view.

—Task Force strategy with an active plan has to be employed.

For the execution of the programmes and strategies envisaged above, let me also outline the factors which are essential and without such a viewpoint is bound to fail :

(1) Deep political commitment and will; (2) Sense of idealism and associated value system among the teams of workers, planners and other decision makers; (3) Time targeted plans; (4) Clear recognition of the severity and dimension of the problem, and (5) Feeling for the urgency of the task and a now-and-here approach of attack.

As Zakir Saheb, following Mahatma Gandhi's ideals, had so often stressed in his speeches, there is an imminent need for all of us to rededicate ourselves to the integrated development of man through education, science and technology and work. Let us remember Mahatma Gokhale's observation that educated people of the country would be on trial when freedom would be won. In these moments of trial we may derive some comfort from the following thoughts:

"I have hope", said Leibnitz "that society may be reformed when I see how much education may be reformed;"

and according to Voltair,

"Nothing enfranchises like education, when once a nation begins to think it is impossible to stop it."

I wish to thank the Indian Adult Education Association again for the opportunity it has provided me to put my thoughts before this august audience. But before I close, let me bring your attention to a profound insight from our own scriptures.

"There is no Religion greater than Man"

for further reflection in view of all that has been said above.

CHALLENGES BEFORE INDIAN ADULT EDUCATION

J. VEERA RAGHVAN

I feel deeply privileged to address this distinguished gathering of educationists who have assembled here at this beautiful city of Mysore from all over India. Our thanks are due to the Indian Adult Education Association and the State Organisers for bringing us here at this crucial time. The Association has much to be proud of in its 44 years of existence. We should be especially grateful to them for instituting this series of lectures, in honour of the Late Dr. Zakir Husain, providing an occasion for introspection and reflection. He had occupied the highest position in this country as the President of our Republic. He has even a higher position in our hearts, as a great educationist, the founder of Jamia Millia, a unique National Centre of Learning. He was the embodiment of the best in the Indian and world traditions and had carefully elaborated Gandhiji's ideas on basic education contributing his own deep insights and vision. It is therefore in the fitness of things that we in this year honour him by a look at some of the challenges facing Adult Education today.

We are completing the Sixth Five Year Plan of Socio-Economic Development and have started thinking on the Seventh which would lead us *into the last decade of this century*. Education has a long lead and the future in a sense is already present with us. It is a future that is not only changing fast but a higher rate of change; it is a march towards increasing complexity. It is also a march towards an increasingly inter-dependent world. Any education we provide must help our children and adults to cope with such a world of increasing speed, of change, ever growing complexity and ever increasing interdependence. It is a world where education has to do

more with acquiring the capacity and tools for learning rather than learning itself. It is also a world of inequalities—inequalities of wealth, income, education, information and power and the struggle to reduce such inequalities. It is a world struggling for peace and faced with the threat of war and extinction. It is a world struggling for a New International Order. And the establishment of such an Order has many implications for education. As stated in the UNESCO Document *Moving Towards Change*:

The establishment of a new and more equitable International Economic Order implies changes in the education systems of many developing countries, for in many cases, through lack of sufficient resources, most adult and many young people are refused access to education and information and do not receive the minimum training. In many cases too, existing education systems are expensive copies of systems developed in industrialized countries and must be radically changed to take account of the cultural situations, so that knowledge and the knowhow needed for agricultural and industrial development can be acquired.

More specifically in our context all Education and especially Adult Education faces a three-fold challenge—the challenge of effective linkage with culture, science and work; the challenge of eradicating illiteracy and the challenge of adapting to the new information/communication revolution.

Link with Culture, Science and Work

The greatest challenge before educationists is the remodelling or redesign of the existing education so that it takes account of the cultural, social and economic realities of the people. There is a widespread feeling that the present education alienates the students from their cultural moorings, that while it unfits them for their own environment and vocations it does not fit them for anything else. Undoubtedly there are economic, social and pedagogical reasons for drop-outs and non-enrollment of children in the schools, but a major reason

could be the irrelevance of the education offered to the life of the ordinary village. That it benefits a section of the people who are vertically mobile is not denied; those who are thus likely to benefit, take advantage of it. But for the rest it remains meaningless and they drop out of the system adding to the number of illiterates.

But even those who benefit from the system become culturally uprooted. If education does not foster cultural development of a country, and if the educated do not understand and take pride in their cultural inheritance the Nation loses its identity and development becomes a weak imitation, a third rate copy of what occurs elsewhere. True development has to be cultural development preserving and fostering the roots of our Civilization. Gandhiji could speak confidently of keeping the windows open to winds from all directions precisely because he was culturally rooted and his feet were firmly planted in Indian reality. Today the winds that blow from other civilizations threaten to become gales, thanks to the power of modern communication.

Jawahar Lal Nehru was very conscious of this problem. In his monumental work *Discovery of India* he cited Emerson's warning to his countrymen not to imitate or depend too much culturally on Europe but to draw inspiration from the abounding life of their new country. He felt that Emerson's warning was relevant in our context also, although he was against any kind of isolationism.

"The world of Emerson's time has changed and old barriers are breaking down; life becomes more international. We have to play our part in this coming inter-nationalism and for this purpose to travel, meet others, learn from them and understand them. But a real internationalism is not something in the air without roots or anchorage. It has to grow out of national cultures."

The world has shrunk further since the *Discovery of India* was written and by 2000 we shall have realised the concept of

of the Globe as a village. Any event occurring anywhere in the Globe affects people everywhere. Communications—visual and audio—are swift and powerful. Inter-dependencies economic and otherwise have increased enormously. Need all this necessarily imply a uniform worldwide culture and life style? Or could cultural uniqueness be maintained by nations to enrich by diversity what would otherwise be a monotonous uniformity ?

Without a conscious and deliberate effort the march to uniformity is inevitable. But education can play a creative role in the preservation and fostering of our cultural roots. For this, it must focus even more on adults than on children. The elite among the adults—the “educated classes”—generally the products of essentially an alien system need reeducation as a matter of high priority and perhaps as the first necessary step in any major effort at renovation of our cultural and educational ethos. *How much* do the elites know or understand their own cultural traditions? How much do they care? Fortunately, the new media present immensely powerful tools for reaching the busy and influential groups. Strangely enough and not so strangely, the re-education of the educated becomes even a greater priority than the education of the uneducated.

But the education of the uneducated remains the most formidable and challenging task of our times. The number of adult illiterates in the age group 15-35 alone is estimated to be over 100 million in 1981. The problem here is of *cultural modernisation* and not of rootedness. The “uneducated” have their own strong oral traditions and are in many ways culturally rich and worldly wise. The perceptive observer that he was, Ananda R. Coomaraswamy had noted that a most striking feature of our civilization was that it “produced not merely a great learning somewhat jealousy guarded by Pandits, but also a religious and aesthetic culture in which all classes shared”

and he approvingly cites Robert Knox “Their ordinary Plow-

men and Husbandmen do speak elegantly and are full of complement. And their is no difference between the ability and speech of a countryman and a courtier.”

Such is India where ordinary men have the finest of cultural values and we may not underrate the richness and power of our oral traditions. However, the modern world requires a literate as much as an educated and cultured population. It is a world of science and technology, where every worker needs to have requisite knowledge and know-how and constantly improve and adapt it. He has to keep pace with a tremendous flow of new information, has indeed to know how to choose the information, absorb it, adapt it and modify it. India cannot play its role in the march towards the New International Order unless we first solve the problem of illiteracy and cultural modernisation.

The new education of the adults and of the children has also to be linked to promotion of scientific attitudes and analytical and problem solving skills. Rooting education in cultural traditions does not mean blind adherence to what is old. The questioning mind is the basis of education, as it is the basis of science. According to a Tamil proverb, the learned man is one who asks the question and not the one who gives the answers. Science and Technology is not confined to scientists, laboratories and industries. Every farmer, every worker is in fact a *scientist* applying the principles and methods of science to his work, as indeed to his life. In this context, mention must be made of the valuable work done by Kerala Sastra Sahitya Parishad, which has launched a Peoples Science Movement. It is an attempt to make people think and question the natural and social laws by which they are governed. Adult education's great task ahead is to take science to the people.

It is said that the “scientific management movement” of the West was based on the motto that there is one best way of doing a thing and that needs to be discovered and adopted. Our motto has to be the better the best. It is only through

better organisation of work and increases in productivity at every point in our society that the vicious circle of poverty can be broken. A major part of Adult Education has to do therefore with efficiency and productivity improvement. The Farmers Functional Literacy Project presently designated as the Rural Functional Literacy Project has precisely this as its objective. It is work-related adult education. It aims to make the farmers better decision makers, better problem solvers.

Obviously how good people are as decision makers and problem solvers is of crucial importance to the progress of a country. In this connection, reference may be made to what educational psychologists cite as a human limitation, the 7+2 problem. "This arises from an interesting research finding on problem solving ability. It appears that an average adult can remember only about seven bits of information at a time in short-term memory. Some individuals seem to be able to remember nine bits of information while others can cope with only five bits at a time, thus the term 7—2. This capacity apparently increases from age three when only one bit of information can be retained, to age 16, when the adult level is reached...it is interesting to find that even with relatively sophisticated thinkers, the inability to keep in mind or the unwillingness to consider more than nine factors is apparent...while science is supposed to be parsimonious this tendency to simplify and reorganise fantastically complex phenomena into only 7+2 bits of information may, in fact be a human limitation. Parsimony is supposed to simplify complex explanations, but should not be used to distort the data and ignore the possibility of additional factors."

Whether education affects the development of this basic capacity may be doubtful, but education certainly trains the mind in selection and analysis of information within limits of a given capacity and therefore is of substantial help in raising the quality of decisions. It helps in scientific and critical thinking and assists in retaining one's observations

and experience to the existing stock of knowledge. The question must be asked if our farmers are equipped to handle the complex decisions needed at the operating level. Oral traditions develop many valuable qualities; do they also develop the capabilities and knowledge required in modern societies?

In any case who takes the decisions on farming practices, when and where to apply fertilisers, or insecticides, what varieties of seeds to use, what cultural practices to adopt? What is the information base of this decision maker? It is the *agricultural labourer* who is in a sense in *regular and daily* contact with the crop and is in a position to observe and interpret the field situation at the earliest. It is his information base, his ability to interpret and transmit such interpretation, that is crucial for productivity. We know many diseases and insect attacks, soil or nutritional deficiencies etc. could be prevented or remedied if the symptoms are seen and understood in the early stages of crop growth. It is obvious that adult education if it sharply focusses on improvement in such abilities can make a dramatic contribution to increase in agricultural productivity. And this applies to all rural workforce so that upgradation of skills of rural young adults would be among the most productive sectors of investment in a developing economy.

There are also vital psychological benefits to be derived by a remodelled education system linked to work. UNESCO document *Moving Towards Change* declares: "To educate people to produce, and so, through their own activities, to satisfy essential requirements with regard to food, clothing, housing and health is a form of struggle against poverty from both the material and psychological point of view. Instead of adopting a fatalistic attitude towards poverty, the individual and the community will feel responsible for their own development glimpsing objectives which they can themselves decide on and acquiring means by which to reach them. This growing realization of their capabilities will be a powerful motivation."

It is not of course a unidirectional contribution of education to work ; the reverse is equally true that work contributes to education, an aspect which Dr. Zakir Husain emphasised so much. Not all work, of course ; it must be preceded by mental effort and further, to quote Dr. Zakir Husain "work is genuinely educative only when it serves some value higher than our selfish ends...He who works for his own ends may become skilled ; he does not become educated. In the service of values, man does not seek his own enjoyment, but strives to achieve perfection in his work, to improve his character and become a real human being.....The educative quality can be found in handwork as well as in mental work and both can be devoid of it.'

The struggle against illiteracy

The struggle against illiteracy remains our most formidable challenge in the coming decade. It is first and foremost a problem of numbers. Over 100 million adult illiterates are to be educated to a level of non-relapsable literacy. If a nation cannot survive half free and half slave as Abraham Lincoln declared in ringing tones, neither can a nation prosper half literate and half illiterate. Mahatma Gandhi declared illiteracy to be our sin and shame. Are we too modern to bother about sin and too progressive to bother about shame ? We must make a determined and devoted effort to eradicate illiteracy root and stock. It is not a question of financial resources. Resources for work such as these grow from work well done. It is a question of mobilising the community. The Kothari Commission had spoken of mass approach and selective approach, but in fact both are necessary as the Commission itself noted.

There are many agencies involved in this work, official and non-official. Valuable experience has been gained in materials and methods, in organisation of programmes, in post literacy strategies. The time has come to consolidate this experience and make the programme mass based. Every school and every educated person can become a volunteer in this

work. Every development agency, be it in health, social service, agriculture, dairy, animal husbandry, sheep improvement, forestry, or small scale industry or handicrafts, every factory or government farm could become a centre for literacy and education.

The emphasis is on literacy and not on *techniracy*. The latter term is sometime used to emphasise the upgradation of skills. That such upgradation is necessary is self-evident, but it is not a substitute for literacy. Any assumption, open or hidden, that in our circumstances, what is important is techniracy and literacy as such can wait for better times to come, is altogether to be rejected as invalid. Literacy as such is important to the individual, and to the nation. How far can skill training progress without basic literacy and numeracy? It would therefore be a fruitless controversy to consider literacy and techniracy as alternatives even for a limited period. Wherever feasible, they should be combined. It is interesting to note the observation of I D R C Report (1979) entitled "The world of Literacy, Policy Research and Action": "Experience has shown that the school teachers seldom become proficient in teaching the technical side of functional literacy, where as the technicians (the factory supervisors or progressive farmers) become quite proficient in learning to teach literacy. The implication is that it is easier and more practical to train a technical person in techniques of basic literacy teaching than to train a primary school teacher with no technical education for the task of literacy instruction."

The report goes on to point out a basic and self-evident premise that adult educators have long known about teaching and learning. An individual is a more successful teacher (learner) when the subject being learned is related to an area of previous experience and competence. Literate technicians have only to learn the methods and techniques of teaching two things they already know: the particular skill and reading and writing. Non-technical people such as school teachers, must learn the methods and techniques of teaching

a new clientele (adults) as well as the technical content.

In fact the task ahead is of such a magnitude that we need to mobilise all willing and motivated workers. Something of the spirit of *Gram Shikshan Mohim* needs to be revived and local communities actively involved in literacy drive.

What a mass programme calls for is a good material resource and training support system. Many motivated persons may be willing to teach but they need to be given the know-how rather quickly. The building up of block level resource centres may have to be a priority programme. Research on methodologies of adult education, on the best methods of motivating and quickly achieving desired learning levels needs to be intensified and the valuable information gathered from independent evaluation of adult education programmes by a number of our leading social science research institutes put to constructive use. Needless to say a mass programme cannot be sustained without a climate of fervour and dedication, but I believe the basic conditions exists for building up such a climate and for a tenacious and successful assault on illiteracy. Above all the literacy centres must become centres of attraction and their facilities upgraded for various useful activities with a library and a radio around which discussion groups could be organised. It must be emphasised that neither our strong and rich oral tradition with its own concepts and methods of education nor the increasing availability of knowledge and information through audio-visual media reduces the importance of literacy which needs to be given utmost priority.

A great and praiseworthy feature of the Indian planning is its refusal to devote itself totally to 'growth' but to balance growth with social justice. A large part of our planned effort is aimed at the target groups below the poverty line. Literacy must form a necessary component of these programmes, as it will also help in effectively achieving the goals and targets of these programmes.

The New Information Technology

From literacy programmes to modern communication and information technologies might seem too big a leap, but in India several centuries co-exist, the bullock cart with the atomic plant and neither can be neglected. A new dimension of adult education is how to cope with and what use to make of the new information technology.

The new information technology is the result of tremendous advances occurring in computers, micro-electronics and telecommunications. Together they are placing at the disposal of man enormous powers of acquiring, storing, analysing and communicating information of all kinds. It is as if the world is being given a new nervous system with a superbrain, the system reaching instantaneously nooks and corners of the globe and the outer space as well. It has been suggested that the industrial revolution brought to us devices to extend our musculature, but the electronic revolution is bringing us devices that extend our nervous system. Although information is not education, it is the basis of education and adult educators must think ahead as to how to make effective use of the great new opportunities that lie ahead in these areas.

In his excellent book on "New Information Technology in Education" David Hawkrige has drawn attention to several aspects of the new technology that—Governments are saying that the new information technology is the key to economic growth. Proponents claim that information will be more accessible and that more information will mean increase in opportunities for all with the greatest gain being to those at present at a disadvantage educationally and informationally.

On the other hand, Stonier says that an educated work force learns how to exploit new technology, an ignorant one becomes its victim.

Information is a source of power in western society.

Information technology is becoming a means of wielding power.

The new information technology is overtaking the old, providing more powerful ways to create, store, select, process, deliver and display information.

He foresees "as an optimistic forecast" with children in the year 2000 having access to new information technology in their own homes. "The primary device for young children to learn from at home is likely to be a screen like that of a television set, but one that differs from those we use today by being larger and flatter. This screen will occupy much of one wall in the principal room of the house and will be part of a two-way communication system incorporating television, teletext, videotex, a videodisc or videotape cassette player and a microcomputer.

"A three year old will use a keypad to make telephone calls, to call up educational games, singing and dances, story telling, or old fashioned television broadcasts like Se same street. Some of these will enter the home by cable...Four year olds may be wanting to buy the key board of the microcomputer. Adults wishing to continue their formal education will be able to do so largely in their own homes. They will visit college and other institutions from time to time for group discussions, to use specialised equipment or to meet an expert but most of their needs will be met through the home screen and associated devices. Adults will also have access to a very large store of information for informal learning not associated directly with any course of qualification. Many agencies will offer such information, some of it free, some of it for sale. It will be in books, tapes, records as at present but also in video discs for use in video disc players with or without microcomputers, in chip module form for plugging into hand held or larger devices, and as computerised data bases accessible by telephone line. In addition, cable television will bring into the home or office or factory a very large number of specialised channels,

dealing with gardening, antique furniture, restoration, and marketing religion, cultural affairs, sports, games and many other interests. One channel will carry nothing but indexes to other channels."

A piece of science fiction or utopia? If anything indications are that utopia will become a reality sooner than expected. India must prepare itself for these developments. Our *urban* population alone may exceed the total population of U.S.A. by 2000 A.D. What are the educational and other implications of catching up with such a revolution in technology and what are the implications of being left behind in a world marching ahead? Here is an area for adult educators to ponder over. David Hawkrige has listed six desirable goals, which we may keep in view.

First, there could be no learners' heaven without educational opportunity for all. Barriers of poverty, social class and occupation would have to disappear.

Secondly, and stemming from the first, the limits of time and space, of schedule and geography, would have to be broken down, so that people including children, could study when and where they needed to.

Thirdly, learners would have access to a very large store of information at many times during their life times and this store would contain information in a wide variety of forms subject to some quality control.

Fourthly, learners of all ages would have the means to select information suited to their individual requirements.

Fifthly, every learner would be able to use the technology to process information. This processing might occur in on the job training, in a classroom or laboratory or at home or indeed in many other circumstances where a learner needed to write, compute, compose, draw or otherwise create something new through processing information.

Sixthly, learners would be able to add to the store of information held locally or nationally within liberal constraints of quality control.

The principles underlying these six goals are unexceptionable and are applicable to existing technologies, as far as may be. As for the new technology, adult educators have to apply these principles to existing programmes even as they ponder over the problems of progress towards the new technology in our country.

The question before us is : Is the country geared to utilise the capability arising from the new technology in the field of Education ? Are adult educators prepared for this task ? If not, is it not already somewhat over due ? We must now hasten with our efforts. Some implications of the new technology may be taken note of. It is *interactive, integrated, systemic in thinking style and time saving*. The new technology encourages interaction and participative styles. If our experience with Radio and Television is to the contrary, the fault lies not with the media, but the methods of software production and our perceptions and arrangements in this regard. There is need for decentralised, participative production of software, not only by professionals but also by amateurs. We may not go so far as McLunan who says "The professional tends to classify and to specialise, to accept uncritically the ground rules of the environment. The ground rules provided by the mass response of his colleagues serve as a pervasive environment of which he is contentedly unaware. The "expert is the man who stays put". But we may certainly agree with his approval of Oppenheimer's statment : There are children playing in the street who could solve some of my top problems in physics, because they have modes of sensory perception that I lost long ago".

Adult Educators; the Resource Centres, in particular must initiate, encourage, and train people—professionals and amateurs—in the art of software production not only in what is termed as educational television, but even more importantly

In the harder area of instructional television and computer software production especially for self-learning materials. Software for television must become available from every corner of India to create a truly national consciousness and awareness to speed up our development.

What the new technology encourages, a systemic way of thinking is well known. Problems and issues are not seen in isolation but in their context and setting. Goals and objectives get defined, forces, resources, constraints and alternatives get identified. System analysis is a way of thinking in computer software production and is not confined to software production alone. This way of thinking coupled with the immense capacity for information gathering, storing and processing has to be utilised to understand our problems and test them in all their dimensions and to seek more efficient ways of solving them. The approach of systemic thinking must be applied to the problems of adult education itself, even as adult educators seek to train and educate large numbers in this methodology.

Modernization

The challenges before Adult Education are many; but all these may be summed up in a single phrase, namely the modernisation of Indian society. The Sixth Five-year Plan declares the goals of our development as growth, social justice, modernisation and self-reliance. Adult education can and must contribute to all the four goals. Literate and skilled, the vast human resources of India could become an extraordinary source of strength and mass of our so-called "vexing problems" could vanish into thin air. What we need is a new dynamism and determination. In particular voluntary effort in adult education must have a new resurgence. We have the know-how. We have the means. We must have the will. The fittest tribute we can pay to Dr. Zakir Husain is to eradicate illiteracy from our land and make it possible for every citizen of India to become an active participant in the learning society of today and tomorrow.

ERADICATING WOMEN'S ILLITERACY: A CHALLENGE

M. L. SHAHARE

It is a matter of great honour for me to have been invited to deliver the Zakir Husain Memorial Lecture instituted by the Indian Adult Education Association. Dr. Zakir Husain was not only a great educationist but a great humanist also, who gave concrete shape to Gandhiji's idea of "people's education". Dr. Zakir Husain considered education as one of the most important tools for national development and social change. To quote his own words, "Education is the most powerful instrument of national development. What we need most urgently is a revolution in education which can trigger off the necessary cultural, economic and social revolution". It is this type of education which was conceived by Gandhiji and concretised by Dr. Zakir Husain. It was an education for whole man in the true sense of the word. This is the type of education which enables people to see its relevance to their lives.

This education was intended to make the equality of all Indians irrespective of caste, creed and sex a reality. Gandhiji was a great exponent of emancipation of women of this country. Many women under his leadership took part in the liberation struggle. The names of Sarojini Naidu and Kasturba Gandhi are two of the many such shining examples. Since he thought women as equal partners in all national activities including the national struggle, he laid great emphasis on their education. The leadership which Gandhiji created has to this date inspired and nurtured the movement of emancipation of women in this country. It is these men and women who were responsible for ensuring that our Constitution reflected fully the ideals of equality for all, irrespective of caste, creed and sex. It is they who were responsible

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for many progressive legislations to remove the handicaps that the women suffer from in their quest for equality and freedom from exploitation.

In spite of providing equal opportunity to them our women have not been able to secure for themselves all those rights and privileges which legitimately belong to them. They are either denied these opportunities through the biases of the society or because of their ignorance of what is their due as citizens of this free country. For example in spite of provision for free compulsory education for all, the gap between male and female literacy continues to widen. This gap became all the more explicit in 1981. I would like to present here some of the facts about sex ratio among illiterates which speak for themselves.

<i>Year</i>	<i>No. of women illiterate per 1000 men</i>
1951	1138
1961	1250
1971	1243
1981	1322

It means that inspite of launching a massive adult education programme in 1978 the situation in regard to women's literacy has worsened. This itself should set all of us thinking. Similarly, in various jobs the number of women in general is much lower than that of men. This difference between men and women becomes all the more marked as we move upward in the hierarchy.

It does not, however, mean that Indian women have not made any progress or taken advantage of the facilities available to them. In 1947, the enrolment of girls in schools in the 6-11 age group was less than 3 million. In 1981, it was more than 28 million. We have come to a point where we can reasonably hope to achieve our target of ensuring basic minimum education for all children upto the age of 14 years

within the next one decade. There are now very few villages in India which do not have a primary school of their own. The number of women teachers in primary school was less than 30,000 in 1950-51. It has since multiplied more than 10 times. The number of women teachers in middle classes in 1950-51 was just about 12,800. It is now more than 266,000. Literacy rate among women in 1950-51 was 7.93. In 1981, it was 24.88. I am bringing out these facts because in spite of the constitutional and legal provisions and facilities created for women, the plight of majority of them has remained unchanged or has even worsened. There are many reasons behind this sad state of affairs. The urban middle class people by and large continue to nurture the same age-old image of women only as mothers or housewives. They think that women's primary role is to cook, clothe and feed the family and rear the children, although they see quite a few women working with them in offices, schools and colleges. They only tolerate these for economic reasons and not as a natural right of women.

When it comes to rural middle class women, the men even do not think of these economic compulsions to give them a right to work independent of men. They think all women as housewives and mothers who should confine themselves to matters related to home and the family life. The decision maker is invariably the man in all matters. It is, however, a well known fact that women in the lower economic strata are not only housewives and mothers but are also workers in fields, factories, construction of roads, building, etc. In fact, an analysis of the work force shows that a large number of women are participating in the economic activity of this country. The data show that women constitute a very big chunk of our labour force. *This contribution of theirs is in addition to the work they do at home which is not being accounted for in terms of money.*

The most important factor which can contribute towards making women realise their true position in developing an understanding among them of the role a women plays or contribution she makes to raise the quality of life directly

and indirectly, is their education. Adult education programme is one of the most important instruments of bringing about this awareness among women. The harm we are causing to the society and the country by keeping this most important person ignorant and illiterate is incalculable. Our dream of being a great nation can never be realised unless the women, who constitute around 50 per cent of our population, are made literate and knowledgeable.

While speaking after laying the foundation stone of the new building of Zakir Husain College in New Delhi on July 19, 1983, the Prime Minister Smt. Indira Gandhi, stressed the need for giving more attention to adult literacy and women's education and warned the people that if left to Government only it would take too long to achieve universal literacy. She said that by denying our women education we were turning them into liabilities. There could not be any real progress if large sections of our population at present deprived of educational opportunities were not brought under some or other kind of educational programme

Education is, therefore, a major instrument of bringing our women back to their original glory which had been part of the tradition of this country. Our ancient literature and religious books talk of eminent educated women who could challenge men in their knowledge of scriptures and various aspects of life. We are aware of the well-known story of Bharati, the wife of great learned Mandan Mishra who was made the judge of the great debate between Jagat Guru Shankaracharya and her husband, about whom Pt. Ambika Dass Vyas has written the following :

*Akhandalah Panditamandareshu|Ya Chabhanmandan-
mishranama|Arya cha Bharya cha Sati Yada|Samadhya-
gachachat Sakal hi Shastram* which means that among the learned the most learned one who was the master of all scriptures has been chosen to mediate.

To think of education of women is, therefore, to think of

(a) raising the quality of our family life ; (b) quality of our work force ; (c) quality of our nation. In view of the importance of adult literacy for women, the adult education programme in India has already considered them as their first priority. It is through making women literate that we can arrest our suicidal march towards darkness of ignorance. The wishes of the designers of this programme will, however, continue to be only pious wishes like the one that have been put in our Constitution unless we take concrete steps to realise what we intend to achieve in the field of women's literacy.

India's experience with programmes designed to promote development of women, including those directly aiming at improving their fertility behaviour has been rich and varied. In some areas it has been marked by notable success ; in some others results have fallen below expectations.

The lesson we have drawn is that with the exception of education, no other single programme, howsoever large in terms of investment, on its own strength can enable women to become equal partners with men *de facto* and *de jure* in running the family and the society. We are facing many problems on our road towards modernisation of the country and raising the standard of living of the vast majority of our people. We have been investing very heavily for achieving these goals but the rapid growth in population has to great extent nullified our efforts to provide minimum basic needs to our people. If even this single major problem has to be resolved, the surest way is to educate our women. As in relation to fertility control, our experience is that the higher the educational level of women, the lower the level of their fertility. We are all aware of the fact that in Kerala we have been able to achieve a great measure of success in reducing the death rate as well as birth rate and it can to a great extent be attributed to the higher percentage of women's literacy there. I will, therefore, place before you a few suggestions, which will go a long way in ensuring women's participation in adult education programme.

The management of adult education programme even when it has a special emphasis on women continues to be largely in the hands of men. Most of the senior officers at the national level and even at the district level are men who will not be in a position as compared to women to ensure an effective implementation of adult education programme, meeting the special needs of women. We should, therefore, ensure that suitable women officers at all levels are appointed particularly in adult and non-formal education programme for girls and women. At the field level we must ensure that women teachers are available to conduct adult and non-formal education centres for women and girls. I know that many villages in India do not have a single literate woman to be assigned the task of an instructor. In such cases we may arrange special education/training programmes of longer duration to enable the women from the community not only to acquire literacy skills but also the ability to impart literacy skills to fellow women trainees. The organisation of training programme must also cater to the special needs of women. It may not be possible for the organisers to have a residential training programme for women for reasons of security and other considerations. We, therefore, should be able to organise for them non-residential training programmes. We may also have to ensure that the training centres as far as possible are close to the villages of the trainees to enable them to travel to the training centres and to return to their homes the same day.

The training programmes for women besides giving them skills in imparting literacy must be of value to women teachers themselves. It may give them certain life skills and economic skills which they can not only share with the fellow participants in the adult education programme but which can also enable them to improve the quality of their own lives. We may, therefore, think of providing adequate funds for enrichment of the training of women grassroot level functionaries.

The adult education instructor is the key to the success of the programme. The training of instructors should,

therefore, be very carefully planned. Many women who will come to receive training are likely to bring their children with them. This possibility may be taken into account while making physical arrangements for the training of women field functionaries. In fact child rearing practices and health education programmes may be made integral part of women adult education training programmes and the presence of children may be used as an opportunity to impart skills related to the health and care of children. We may also have to think of providing toys and nutrition to the children during the period of training of their mothers. It would automatically involve separate arrangement for training of women instructors. The same way as we are recommending that women trainees be allowed to bring their children during the training programme, I also recommend that mothers be allowed to bring children when they come to attend adult education centres. I am told that it is common for mothers with their babies in their arms to come to attend adult education centres. Could we not use this opportunity of helping these mothers to understand more about their children as well as their own health ?

I have been informed that a project with the assistance of Unicef has already been undertaken by the Directorate of Adult Education, Government of India, which provides toys for women adult education centres in selected places. These toys are meant for children who accompany their mothers. May I suggest that this facility of providing toys be extended to all adult education centres for women all over the country. We may also have to arrange for medical check up of children, and provide for nutritious food at the adult education centres for the children of those mothers who attend these centres.

Most of the women and young girls are not able to avail of education facilities created in the form of adult education centre or non-formal education programme because they are too preoccupied with collecting fuel, preparing food and other domestic drudgeries. If need be the Government may undertake special programmes for reducing women's domestic drud-

gery wherever there is an adult education programme in operation. I understand that several schemes on the use of appropriate technology are in operation and these should be fully utilized for helping women reduce their work load so that they can look forward to a better life through adult education programme. It has been stated in the various policy documents on the adult education programme that the content of the adult education programme should be related to the needs of women. However, surveys are done as a preliminary to the starting of the programme but very often there is no link between the results of the survey and the programme conducted. The State Resource Centres have an important role in making the programmes more target group/area specific. There is a need to evolve a far more dynamic curriculum catering to the needs of specific groups. In view of special problems of women one may even suggest that a special cell be created both at the national level (as a part of the National Directorate) and State level to ensure support to women's adult education programme.

It is heartening to note that there are several women organisations in the country which are trying to join the national effort to eliminate illiteracy particularly from among women. I will like to particularly mention the role played by SEWA (Self Employed Women's Association), Ahmedabad, Bharatiya Gramin Mahila Sangh, Mobile Creche of New Delhi, Centre for Women Development Studies, New Delhi and Kasturba Gandhi Trust.

I have also been informed that a National Committee on Eradication of Illiteracy among Women has been recently formed by several social workers and organisations working for the uplift of women under the leadership of Smt. Lakshmi Menon. This Committee has also gone into the question of resource support as well as content of women adult education programme. Some of the suggestions of this committee in regard to the core content are that it should include :

—The fundamental rights guaranteed to all citizens under Constitution—along with the rationale—why these were considered necessary by the freedom fighters;

—A special emphasis on women's and children's rights explaining the existing legal provisions and the rationale behind some of the critical social legislations like the Dowry Act, the Minimum Wages Act, the Bonded Labour Abolition Act, the Equal Remuneration Act, etc. While legal terminology is complex even for educated people, it is possible to reduce the basic meaning of these laws and their objectives to very simple language and use these concepts to develop literacy among our target groups; and

—Basic information about development programmes—the types of activities that women can develop by themselves, the sources from which they can seek assistance, the authorities to whom they need to appeal in case of unjust treatment. Incorporating these components in the literacy programmes would be of great educational value, not merely for our target group, but also for those who wish to instruct, assist and help them, because these are the things which many educated women are still not aware of.

The rest of the the content could be based on the situational analysis of the target groups as stated above. I suggest that the Indian Adult Education Association should make special efforts in developing suitable material for women learners to operationalise this content.

It has been mentioned in our adult education policy document that at least 50 per cent of the centres opened should be for women. I do not know what happens to the funds when we are not able to ensure the implementation of this part of the guidelines of the programme. I will suggest that at least 50 per cent of the money on adult education programme should be spent on the education of women. This money should not be diverted to any other channel if we are not able to spend it on women's education. We should think of ways and means of ensuring greater participation of women because once we start diverting the funds then the cause of women's education would suffer.

The Government has on its part initiated a very good

scheme of giving prizes to those States which have done commendable work in women's education. We may think of providing incentive to women workers in adult education for their outstanding work. We may honour such workers on special occasions.

Government alone, however, cannot handle this gigantic task. Voluntary organisations must play a more dynamic role. Indian Adult Education Association, therefore should play more vigorous role in identifying those voluntary organisations which have acquired experience of working with women particularly in the rural areas. Government of India has already made its rules very flexible in case of women voluntary organisations particularly in the rural areas. For example, they can take up five centres, if they cannot take up a project of 30 centres. With this liberal scheme many voluntary organisations need to be involved in this task.

There are several developmental schemes in operation in the country. Many of these schemes have great potentiality of being linked to the Adult Education Programme. In this regard a special mention be made of Integrated Rural Development Programme, Training of Rural youth for Self-Employment (TRYSEM) Integrated Child Development Services, (ICDS) National Rural Employment Programme (NREP) and Developmet of Women and Children in Rural Areas (DWACRA). Of these scheme ICDS and DWACRA are of special significance for the women's adult education programme as they are specifically geared to meet the needs of poor women. Both these schemes have a strong component of education and efforts are being made to make the educational component which includes literacy as part of the package to be delivered under these schemes.

The adult educators have a great responsibility of studying these schemes meticulously and identifying the educational component to be built into these schemes. We all know that for the successful implementation of these schemes we need well informed and literate clientele. Adult education

programme can provide both literacy and bridge the information gap for the effective utilisation of these schemes by the target groups. Thus adult education should seek to coordinate with these developmental programmes in a manner that it becomes instrumental to their success. If this type of coordination can be achieved I am sure the ministries and departments responsible for these schemes will gladly provide money for women adult education centres as integral part of these schemes.

The role of organised sector is equally important in meeting the challenge of eradicating illiteracy. The benefits of well informed and literate workers to the productivity cannot be disputed. The educated worker is in a far better position to absorb training and improve his adaptability to new machines and hence it is in the interest of both private and public sectors, to assume the responsibility of making the illiterate women workers literate. The Working Group on adult education has suggested that organised sector be made to provide education to the illiterate workers without loss of wages. To begin with they could certainly start with women workers who are subjected to greater exploitation for lack of access to literacy and awareness.

I have not tried to be pedantic in expressing my views as to how we can meet the challenge of the decade, that is, eradication of illiteracy from this country, however, I feel that it can never be met unless we make special efforts to eradicate illiteracy from among women. I repeat the most often said sentence that to educate a man is to educate only individual while educating a women means educating the whole family. The task though big is not form idable. Given the dedication and will of adult educators the challenge can be met effectively. We have resources, we have the expertise, we only need determination to accept this challenge.

A MASS MOVEMENT FOR FUNCTIONAL LITERACY

P. K. PATNAIK

"If a nation expects to be ignorant and free in a state of civilization, it expects what never was and never will be".

THOMAS JEFFERSON

—According to recent projections of the illiteracy situation in the world, India's share of the world's illiterate population in the age-group 15 and over is projected to increase from about one fourth in 1980 to approximately one third of the world's adult illiterates by 2000.

—Approximately 49 per cent of world's illiterate population in the age group 15-19 would be in India by the year 2000.

—Out of 98 countries listed in a study on current literacy situation in the world, only 28 countries have illiteracy rates higher than that of India.

These projections are based on the trend analysis of past performance and the current situation prevailing with regard to progress of elementary education and adult education programmes in different member countries of the Unesco. The development scenario likely to be obtained in the year 2000 and projections made in the relevant studies also indicate that if there is no significant decline in the rate of growth of population and improvement in the spread of literacy, India would enter the twenty-first century with the world's largest number of adult illiterates in the age-group 15 years and above (296 million) which would be even more than the total number of adult illiterates we have today (245 million) !

In fifteen years from now while the curtain falls on the

twentieth century, we will be entering not only a new century but also ushering in a new millenium. How do we actualise India's dream of bridging the back-waters of under-development and entering into the twenty-first century as a major developed country in the front ranks of the nations of the world ?

Given the present circumstances would it be possible to usher in a learning society which places emphasis on the value of education and universal literacy by the year 2000?

Is liquidation of mass illiteracy in India a feasible objective that can be achieved by the year 2000 given the present state of affairs and our development priorities ?

Has universal literacy been a principal concern of those who are responsible for India's development ? If so, why has it not been possible to eradicate illiteracy which Gandhiji considered "India's Sin and Shame" more than half a century ago ?

These are some of the questions raised in one's mind when one talks of a mass movement for literacy. The fight against illiteracy is one of the fundamental challenges of our time. The baneful effects of illiteracy in a society in which more than 60 per cent of the population cannot read or write is one of the major constraints to national development. Of the 245 million illiterates in the country over 15 years of age, approximately 110 million are estimated to be in the productive age group 15-35. More than 60 per cent of the country's work-force are illiterate, most of whom are unskilled workers. There can hardly be any disagreement that liquidation of mass illiteracy in the country's reproductive age-group and productive work-force is essential not only for improving the quality of the country's human resources but at the same time for accelerating the pace of the country's development and promoting effective participation of the people in the development process.

Paradoxical as it may seem, while adult education programmes can have any demonstrable impact, only if these are linked to the wide spectrum of development activities, in practice, there is no integration of functional literacy programmes with other development agencies and programmes. It is even more disappointing that implementation of the adult education programme, which constitutes part of the MNP and the Twenty Point Programme remains so diluted as to be limited in actual practice to the provision of the 3R's, with little or no application to the functional needs of the learners. Experience of implementing adult education programmes in the field reveals the following weaknesses :

—For want of sufficient motivation, it has not been possible to secure continuing participation of learners : average attendance at the adult education centres is generally not more than 20 as against the optimum number of 30 as envisaged and quite a few among them drop out at different stages, before attaining a stage of non-relapsable literacy.

—expectations of the target groups from programmes of functional literacy by and large, remain unfulfilled.

—there is no environmental support to the programme at the field level from functionaries of other development agencies and departments; functional literacy has not either been propagated or used as an instrument of development.

—involvement of educational institutions, community and voluntary organisations at the grass roots level, is either totally lacking or marginal.

—functional literacy programmes have not been related to the needs of learners, who constitute the productive workforce, and are not being used as a means to achieve increased productivity.

—lack of proper motivation on the part of literacy instructors and supervisors, and existing inadequacies in their

training and orientation have, prevented them from conveying effectively the positive correlationship between functional education and social, economic and political development.

—lack of effective post-literacy follow-up and opportunities for learning serve as major constraints in the continuing and further education of those who attain a stage of non-relapsable literacy.

Keeping these major weaknesses and constraints in view, three basic issues need to be categorically answered :

- (i) Is it possible to launch a mass programme with the quality of planning and implementation of a selective programme as it is today ?
- (ii) Can the Government, at the Centre and States take the initiative to launch a mass movement ? The biggest mass upheaval recorded in history is the mass participation in India's struggle for freedom. Is it possible to recapture the spirit and momentum of the freedom struggle, in launching a peoples' movement for eradication of mass poverty and mass illiteracy ?
- (iii) Is it possible to launch a country-wide mobilisation of the poor, most of whom are illiterate, in the mass movement, which is perhaps the only way to launch a people's movement for universal literacy ?

These questions would demand frank, forthright and honest answers, if a mass movement is to be launched with the goal of achieving universal literacy by 2000 AD.

It may be recalled that nearly five decades before the Constitution of India made provision for free and compulsory education for children until they complete the age of fourteen years (Art. 45), the Indian National Congress in its Resolution on evolution of a national system of education in 1906, placed emphasis among other ingredients, on abolition of illiteracy

and provision of universal elementary education to children in the age-group 6-14. Introducing the Elementary Education Bill of 1911 before the Legislative Council, Gopal Krishna Gokhale spoke the memorable words which are as relevant today :

“My Lord, an American legislator, addressing his countrymen more than half a century ago, once said that if he had the Archangel’s trumpet, the blast of which could startle the living of all nations, he would sound it in their ears and say, ‘*Educate your children, educate all your children, educate every one of your children.*’”

The Father of the Nation, outlining the educational imperatives, said : “I attach the highest importance to primary education which according to my conception should be equal to the present matriculation less English. If all the collegians were all of a sudden to forget their knowledge, the loss sustained by the sudden lapse of the memory of say a few lakhs of collegians would be as nothing to the loss that the nation has sustained and is sustaining through the ocean of darkness that surrounds three hundred millions.”

Why has it not been possible to achieve universal elementary education as envisaged in the Constitution—an objective which has continued to remain as elusive as it was thirty years ago ? Considering that 92.8 per cent of all children in the age-group 6-11 have had access to a primary school within a walking distance of one kilometre, and 78.8 per cent of children in the age-group 11-14 to a middle school within a walking distance of 3 kilometres approximately by 1978, why has it not been possible to achieve universalisation of elementary education in respect of at least 75 per cent of children enrolled in the age-group 6-14 by the year 1980 ? It is obvious that universalisation of elementary education and removal of illiteracy have remained cherished social objectives, but determined will to achieve these objectives has been lacking.

Again in the context of the country’s development priori-

ties, while, the need for education may have been established in sociological terms, there has been practically little demand for the "mass education" model comprising universalisation of elementary education and removal of illiteracy. The high rate of drop-out from school itself bears evidence to the fact that education does not "pay". In fact, in a country where more than 60 per cent of the population is illiterate, it is evident that education as an instrument of social change and transformation, has not affected their life in any significant way. An important factor preventing enrolment and contributing to drop-outs is the higher opportunity cost of education to poorer households, more especially in case of harijans. Although the objective of formal education has always been equity centered—this has become one of the major instruments for increasing inequality between the rich and the poor.

Non-retention of students enrolled in school and the high rate of drop-out are among the important factors which contribute to increasing number of illiterates in the country. The total adult population in the age-group 15 years and over has increased from 215.01 million in 1951 to 414 million in 1981. Number of literates in this age-group has increased from 41.44 million (19.3%) in 1951 to 169.00 million (43.8%) in 1981. Of the total adult population of 414 million, in 1981, 245.00 million (59.2%) are illiterates. Notwithstanding appreciable growth in the number of literates in the age-group 15 plus, which has increased almost four times, during 1951-81, the illiterate adult population in the age-group 15 plus has increased from 173.57 million to 245.00 million. Number of illiterates of all age groups (including 0.4) also increased from about 300 million in 1951 to around 437 million by 1981. This would go to show the magnitude of the problem of illiteracy in the country. Another dimension of the problem may also be taken into consideration. The projections relating to the age-structure of the population 1980-2000, goes to show that the percentage of the population in the age-group 15-59 is likely to increase from 54.07 in 1980 to 60.79 in the year 2000. Unless effective steps are taken to ensure that students enrolled in Class I are retained in school at least till successful completion of 5 years

of primary education and attain a minimum level of achievement, early school drop-outs would continue to join and swell the ranks of illiterates in the 15 plus age group.

It should be clearly recognised that the objectives of achieving universalisation of elementary education, and removal of illiteracy are complementary to each other. While it is necessary to achieve at least five years of primary education in respect of all those enrolled in Class I to ensure that early school leavers or school drop-outs do not add to the number of adult illiterates, it is equally necessary to influence parents' attitudes to schooling of their children through adult education. Literate parents more readily recognise the importance of education for their children. In the very inspiring words of Julius Nyerere "what is important is, first we must educate our adults. Our children will not have an impact on our economic development for five, ten or even twenty years, the attitudes of adults, on the other hand, have an impact now".

It is not perhaps entirely an accident of history that the approach to adult education in developing countries is substantially different, both in its emphasis and content, from the western concept of "liberal adult education for self development, leisure and richer personal living" to emphasis on awareness-building and functional aspects of literacy which is perhaps more in keeping with development perspectives, priorities and goals of developing countries. If one attempts a review of the evolution of adult education in the last 30 years or more, faith in the "literacy doctrine" with emphasis on achieving universal literacy swept around the world like a new universal religion. It was expected "that learning the mechanics of reading and writing was the touchstone that could liberate the poor and uneducated people everywhere from the bonds of ignorance, disease and hunger". (Coombs)

Literacy was considered the "open sesame" to modernisation. It was felt that investment in human capital, particularly of the poor, encompassing their total development with provision of better facilities for education and training, better

health care and nutrition, employment opportunities and social services would serve as the most effective means in enriching the potential of human resources in the country and making them more effective instruments of production and better citizens. In the words of Gunnar Myrdal "the various efforts to organise local planning and self-government and to make the cooperative movement effective are dependent for their success on a considerable diffusion of functional literacy. Modern technology in Government administration as well as in agriculture and industry, is continually increasing the need for a high degree of literacy among the people. Generally speaking literacy opens up avenues for communication that otherwise remain closed ; it is a pre-requisite for the acquisition of other skills and development of more rational attitude".

While the diffusion of functional literacy as part of an integrated programme for human resources development alone cannot overcome absolute poverty, it is an essential component to other steps to achieve that objective as well as to raise the productivity and income levels of the poorer sections of the population. The pace of economic development in the country can be accelerated by maximising the influence of factors which contribute positively to economic growth, i.e. through improvement and upgradation in the quality of human resources development.

Given the country's development priorities, if one were to select only three basic goals to be achieved in the next 5, 10 or 15 years, namely : eradication of poverty, increasing productivity and improvement in the quality of life, what role can "development oriented adult education" be expected to play in accelerating the pace of the country's development ? The country's development strategy aims at direct attack on the problem How do the poorest among the poor, most of whom, are illiterate look upon adult education programmes ? Is literacy of crucial importance to the poor and oppressed ? Do adult education programmes offer anything tangible in terms of successfully encountering the problems of day-to-day

life of the common people and their world of work? Are functional literacy programmes geared to improvement in skills and higher productivity? Can adult education programmes contribute effectively to bring about changes in attitudes, perceptions of the learning clientele and help them to participate actively in the process of the country's development? If so, how can the "objects" of development—the largest groups comprising the poorer weaker sections, be helped to participate actively as "subjects" of development?

Let us now proceed to examine the role of development oriented adult education in the following selected priority sectors :

1. Functional literacy and poverty alleviation

The profile of illiteracy in the country approximately coincides with the profile of poverty. Poverty and illiteracy, which form a positive nexus, mutually reinforce each other. Poverty has many dimensions ; it represents a combination of adverse factors including morbidity, malnutrition, high fertility and high infant mortality rates, poor health and nutritional standards, illiteracy, absence of adequate gainful employment, which in effect contribute to acute economic prostration. Most of the illiterate population of the country also constitute the poorest among the poor with little or no access to inputs under various development programmes. Most of our productive work force engaged in agriculture, small industries and in the services sector are either illiterate or possess low levels of educational attainment, The poorest among the poor include marginal farmers, landless agricultural labourers, urban construction workers, migrant workers, nomadic shepherds and members of scheduled castes and tribes. A study undertaken in seventeen States of India to determine the ranking of States of India on the basis of the proportion of illiterate population and the population below the poverty line goes to show that the States of Orissa, Madhya Pradesh, Bihar, Assam and U.P. which show high rate of poverty also have high illiteracy rates. The results of the study demonst-

rate that poverty and illiteracy move in the same direction and reinforce each other in a self-perpetuating system thus generating dampening effects of each other.

Can any attack on mass poverty in India be successfully launched without improving the viability of the various poverty alleviation programmes, and promoting effective participation of the beneficiaries themselves in these programmes ?

Lack of access to development inputs is one of the major constraints which prevents effective participation of the rural poor in various development and poverty alleviation programmes intended for them. A study of educational levels of beneficiaries covered under various sectoral schemes of the Integrated Rural Development Programme in States of Karnataka, Gujarat and Kerala undertaken some time ago by the National Institute of Rural Development shows the 63% of the beneficiaries in Karnataka, 47% in Gujarat and 41% in Kerala were illiterate. Illiteracy being a pre-dominant factor among the beneficiaries and their spouses, many of the beneficiaries did not have the required understanding of different schemes under the IRDP and were not aware of their entitlements as regards benefits from each scheme as well as the amount of subsidy.

Any attack on mass poverty to be successfully launched must be linked with the attack on mass ignorance and illiteracy. Upgradation of educational levels of beneficiaries with a view to promoting wider awareness of the benefits under different developmental schemes should therefore be considered as one of the best means available to improve the viability of the various beneficiary-oriented schemes and poverty alleviation programmes. Functional literacy programmes should go hand in hand with programmes aimed at alleviation of poverty, and literacy lessons should be blended with instruction on social action under relevant poverty eradication programmes.

One of the reasons, adult education programmes have failed to make substantial impact on the rural beneficiaries, is

due the fact that programmes of functional literacy have been working in isolation, very much in the same way, as other development programmes in rural areas. In this context, beneficial linkages between adult education and other development programmes especially those meant for identified target groups or for alleviation of rural poverty need to be developed.

Since approximately 70% of our population is engaged in agriculture and approximately 50% of the national income is derived from the agriculture sector, it would be necessary to integrate adult education programmes with related programmes in the agriculture sector which are designed to provide extension services. It may well be argued that the success of the "green revolution" did not envisage functional literacy as a pre-condition to adoption of improved agricultural practices. It may even be possible to bypass literacy initially in communicating improved techniques and methods to farmers. It has to be appreciated, however, that in order to promote rapid adoption of new technologies, and transfer of skills, a very high degree of literacy, would be an essential pre-requisite. Keeping in view the occupational interests and needs of the learning clientele, it would, therefore, be essential that literacy lessons be inter-woven with relevant development programmes. It is high time that serious efforts are made towards integrating adult education programmes with relevant programmes in the agricultural sector which provide extension services like Krishi Vigyan Kendras, National Demonstration Centres, Operational Research Projects, Lab-to-Land Programmes, Farmers Training and Functional Literacy Projects and Farm Radio Broadcasts. In fact the viability of these programmes can only be improved if we successfully communicate relevant information relating to objectives under different programmes as well provide an access to development inputs through new information technologies. The adult education centre can function as an effective forum, through which, for want of a better expression, "programme literacy" could be imparted to the clientele under different

development programmes. Dovetailing functional literacy with programmes in the rural development sector like the Integrated Rural Development Project (IRDP), Rural Landless Employment Guarantee Programme (RLEGP), Training of Rural Youth in Self-Employment (TRYSEM), Development of Women and Children in Rural Areas (DWCRA), and Integrated Child Development Services (ICDS) would call for special emphasis with introduction of literacy components under the appropriate programmes.

A mass movement for universal literacy, cannot be launched effectively, even if the initiative comes from the Government. It may be relevant, in this context, to recall, what the Committee of Members of Parliament had to say in its Report submitted in 1967, while considering the recommendations of the Education Commission (1964-66). "Plans to accelerate the spread of literacy should be prepared and intensively implemented on several fronts. With a view to reducing new additions to the ranks of illiterates, part-time literacy classes should be organised for grown-up children (age-group 11-17), who did not attend school or have lapsed into illiteracy. All employees in large commercial, industrial and other concerns should be made functionally literate within a prescribed period of their employment and a lead in this direction should be given by the industrial plants in public sector".

The success of the Cuban struggle against illiteracy is demonstrated by the involvement of all development agencies, which provide for adult literacy as an integral component of development programmes. In every work-site, industrial establishment, cooperative farm and mine, an adult education centre is organised by the concerned establishment as part of its activity. The Ministry of Education only provides technical support and conducts examinations.

In providing opportunities for functional literacy for its workers, every establishment, employer may be required to earmark a percentage of its profit as a token of its contribution to the promotion of adult education. Relevant development

departments have an equally important role to play both in respect of providing necessary linkages with adult education programmes as well as preparation of necessary reading materials for the neo-literates and their continuing education.

2. Improving skills through functional literacy programmes for increased productivity.

Achieving the goal of maximising productivity has significant implications in terms of development of the country's human resources. Low productivity is one of the major weaknesses in the Indian economy, which results not merely from inefficiency in the use of capital, but equally from the low level of skills and low per capita output of labour. While India lays claim to having the third largest scientific and technical manpower in the world, considering the state of our public utilities like telephone/electrical maintenance, public health, engineering—to mention a few areas, most of those who perform technical jobs have hardly had any training before their recruitment. It has been estimated that in the public sector, 58 per cent of workers in occupations requiring technical knowledge/skill did not possess any formal education and/or training; 24 per cent of the workers engaged in health-based occupations, did not have any formal education and/or training; on the whole 94 per cent of the workers in occupations requiring general education do not possess formal education.

What intervention strategies are available to us to increase productivity and what role can be assigned to functional literacy in this context? Examples of investment in human capital are expenditures on health and all types of education including on-the-job training. Expenditures on this sort increase the quality of the labour force and its ability to perform productive tasks. Some economists have argued that the "production of knowledge" is the clue to technological progress. The application of technology to accelerate the pace of development which was developed by Simon Kuznets, in what he calls "social technology" aims at achieving an increase in efficiency in productive resources by way of upgradation of skill profile

of the country's work force through education and training, development of an appropriate infrastructure conducive to economic growth and introduction of innovative management practices. Any effort to link the productive force in industry and agriculture with improved techniques and skills would call for raising the level of skills. Upgradation of skills, adaptation to new techniques and methods would require improvement in the levels of education since it is obvious that an illiterate worker engaged in a semi-skilled job cannot improve his efficiency or adapt himself to modern techniques without acquiring basic literacy and numeracy.

The non-literate milieu invariably includes the families of craftsmen and artisans engaged in traditional handicrafts—to name a few; the carpet-weavers of Kashmir Valley and Mirzapur-Bhadoi region of Uttar Pradesh, brass metal workers of Moradabad, wood carvers of Saharanpur, locksmith of Aligarh, Kashikari (blue-pottery) workers of Jaipur, bidri and nirmal workers of Hyderabad, filigree and stone workers of Cuttack and Puri, ivory-carvers of Karnataka and Kerala, Madhubani painters of Bihar, metal casters and Dhokra workers among tribals, families engaged in sericulture and tussar-weaving and handloom weavers practically in every part of the country. While some of the children drawn from these families are among the first generation school-goers, sheer economic compulsions including the need for supplementing family income do not permit many of these families to take full advantage of learning facilities available in the schools. With a view to provide opportunities to these sections of the population who are being marginally served through the school systems, it would be necessary to design relevant purposeful programmes of non-formal education and functional literacy for these craftsmen and artisan groups with emphasis on improvement of efficiency through adaptation of improved technologies.

In a mass programme for functional literacy, it would be necessary to prepare appropriate modules of functional education based on transfer of improved techniques and methods,

as would increase their productivity. The transition from traditional handloom to power looms, supply of improved yarn, and organisation of weavers cooperatives, for instance would not only require intervention through appropriate technology, but at the same time underscore the importance of basic literacy and improvements in their educational levels, as an essential pre-requisite to adaptation to technology. Innovative functional literacy programmes would require to be devised based on the learning needs of the non-literate clientele, which should be appropriately linked to the dynamics of the learning group, their socio-cultural ethos, patterns of social mobility with a view to ensure upgradation of traditional skills in tune with more modern instruments of production. This should call for blending of functional literacy with their occupational activities in a manner which can accelerate the process of social change and narrow down socio-economic disparities.

Any investment in this sector will have to place maximum emphasis on upgrading the skills through functional literacy and training programmes for workers so that they could play an effective role in increasing productivity. Such an approach through upgradation of the skill profile of the productive work force would not only contribute to increase in the level of income and improve their employability but would help at the same time in bringing a large section of the population so far left out, into the mainstream of our national development. This would call for provision of opportunities for training, upgradation of skills and expansion of facilities for vocational training both at an institutional level as well as provision of such opportunities through functional literacy and continuing education programmes at individual level.

3. Improvement in the quality of life through investment in female literacy.

The priorities to achieve a stable level of population growth in the early years of the twenty-first century envisage bringing down the birth rate from 32.6 (per thousand) in 1984-85, to 23.1 in 1999-2000, the death rate from 11.9 to 8.2 (per thou-

sand), the infant mortality rate from 106 (per thousand) to 60, during the same period. What kind of investment is required and what type of infrastructure needs to be developed to achieve these objectives? The example of Sri Lanka, which has the lowest crude birth and death rates (27 and 6 per thousand), highest life expectancy at birth (69), lowest Infant mortality rate (43 per thousand), highest daily per capita calorie intake (22.38) and the highest percentage of married women using contraceptives (41) shows a positive correlation between its literacy rate which is the highest in South Asian region, (85 percent), and the other indices of the quality of life. (World Bank : Situation & Prospect of the Indian Economy. A Medium Term Perspective Vol. II 1984). Investment in female literacy can therefore, be considered one of the best forms of investment the country can make in achieving a faster rate of economic growth and welfare. Poverty, high fertility, high infant mortality being mutually re-inforcing, functional literacy for women may be one of the most effective instruments for promoting acceptance of the small family norm ; better levels of awareness can help in delaying the age of marriage for women and promote better child rearing patterns and upgradation of nutritional standards. The evidence of Kerala which has the highest female literacy rate of 64.68 percent in the country as against the All India average of 24.88 per cent and the lowest birth rate i.e. 25.6 establishes the positive co-relation between high female literacy and low birth rate and lends support to the view that improvement in the levels of literacy could contribute significantly to faster decline in birth rates. Educated women are more likely to know about the use of contraceptives and an educated mother is more likely to send her daughter to school and ensuring her retention in school.

India with a high infant mortality rate and a low female literacy rate (FL) of 24.88 percent compares poorly even with many developing countries in Africa like Zaire, Nigeria and Congo which have female literacy rates between 31 to 50 per cent, Swaziland and Zambia with high female literacy rate ranging between 51 to 80 per cent and Lesotho with very high

female literacy rates of over 80 per cent, although all these countries have high infant mortality rates ranging between 100-149, comparable to India.

The profile on women, indicates that, a majority of women live in rural areas ; a majority of them are in one way or the other engaged in agricultural and allied activities ; 94 per cent of women in the work-force are in the unorganised sector. The problem of illiteracy among women is largely a problem of illiteracy among rural women and especially among the poorest sections of the community viz. the Scheduled Castes and the Scheduled Tribes.

The role of women in traditional societies, especially in rural areas, has been reduced to the performance of the daily domestic chores including drawing of water, collecting fuel and fire-wood and supplementing the family income. While development programmes for women should be so designed as to address themselves to the specific problems of women any programme which focusses exclusively on women can only result in limited success. Development of programmes for women should lay emphasis on promoting the objective of fuller participation of women and the complementarity of the roles and responsibilities of women and men as partners in development. An integrated strategy for the purpose, should focus on literacy, not as an end in itself, but as an instrument leading to increased access and fuller participation in programmes of direct relevance to rural women in their daily life, such as, supply of safe drinking water, methods of water purification, prevention of water-borne diseases in children like, diarrhoea dehydration, worms-infestation ; conservation of energy including use of low-cost alternative energy sources like biogas ; regeneration of village-forests through social and farm forestry ; programmes of welfare for women and children, nutrition programmes for pregnant women, nursing mothers and children, family planning, skill training as would enhance opportunities for additional income generation and most important of all, legal rights of women.

A holistic or comprehensive approach integrating functional literacy with ongoing development programmes would call for effective community involvement. The entry point for literacy can be an important community need, directly related to the daily life of the participants. The Mandar project in Bihar under the aegis of the Voluntary Health Association of India and the Memari experiment in Burdwan District in West Bengal involving the Sidhu-Kanu Gram Unnayan Samiti and the Institute of Child Health, Calcutta, which have taken up health as an entry-point for literacy, are a few successful instances of innovative approaches integrating literacy with holistic development. These experiments also provide alternate models for participation of the rural poor in holistic development programmes. The latter mentioned project which is in operation in 30 villages in Memari P.S. in Burdwan District of West Bengal revolves around a core of development activities. Through a participative inter-face mechanism, the Institute of Child Health, Calcutta has assisted the Sidhu-Kanu Gram Unnayan Samiti to take up chlorination of drinking water through 'Jala-Suddhi', a water purifying substance locally manufactured by the villagers themselves. The project also concentrates on the health care of the mother and the child and immunisation of the children against the killer diseases of childhood. The integrated approach lays special emphasis on social education and development-communication through non-formal functional education and adult literacy, training of local youth in vocational skills, and establishment of Dharmagollas (Community Grain's Bank) to provide grains to the needy during lean months.

Strategy for a Mass Movement

In any mass literacy programme services of various sections of the community and their talent should be utilised. Adult Education programmes so far devised have really not succeeded in attracting the serious attention of educated sections of the community including students, teachers, retired personnel, house-wives and voluntary organisations who can make significant contributions to the literacy

campaign. The educated sections of the country should be considered as an important community resource and mobilised for eradication of illiteracy. Full mobilisation of and reliance on the masses is one of the guiding principles of the campaign in China against illiteracy, where all literates are mobilised to teach illiterates. The principle of "letting the masses teach the masses and letting those who know, teach" is one of the important factors which has contributed to the success of the Chinese and the Cuban literacy campaigns.

Sustained efforts for a mass literacy campaign would call for nation-wide mobilisation to involve all sectors of development and all agencies in the literacy efforts. A mass campaign for removal of illiteracy should involve all employers in the organised and semi-organised sectors. The Education Commission had, in fact, recommended that all employers and large firms and commercial, industrial, and other concerns, should be made responsible, if necessary by law, for making their employees functionally literate within a period of 3 years of their employment. A policy decision on this matter making provision of facilities for literacy at every work-site, establishment or factory, as an obligation of every employer, if necessary by appropriate legislation and enforcing the same like other similar legislations like the Minimum Wages Act and Factories Act would make a significant difference to the implementation of literacy programmes on a mass scale.

The potential of youth in the higher education stream numbering more than 3 million has not been utilised adequately. Considering that there are nearly 5000 colleges in the country and approximately the same number of development blocks, each college may be required to adopt one block in respect of which the responsibility for eradicating illiteracy should be undertaken on a priority task to be achieved within 10 years. The initiative taken by Gandhigram Rural University points towards successful involvement of students in over 200 villages in literacy and other rural development programmes as a result of which the literacy rate in these villages has increased to 70 per cent. The role

of the Gujarat Vidyapeeth in involvement of students in adult education programmes, in the adopted villages, training of adult education functionaries, production of books, primers for neoliterates and teachers handbooks also deserve mention.

It has been suggested that universities/colleges should suspend their classes for a period of one year to enable all the students to participate in a mass literacy programme. A more practical proposition would be to provide opportunities to students pursuing higher education to participate in an integrated programme of imparting functional literacy for a prescribed period as part of the curriculum, covering activities of one semester to be supplemented through an effective post-literacy programme in the long vacation. Unlike the National Service Scheme which has remained confined to nearly six lakh students (out of more than 30 lakh in the higher education stream) as an extra-curricular optional activity, participation in programmes of functional literacy, should become an obligatory community service for all students studying for their first degree. For involving students in programmes for removal of illiteracy, participation in adult education programmes should be part of the curricula. Students who participate should be given academic credit. It may also be considered if participation in adult education programme as part of the curricular activity should be made a pre-condition for award of the first university degree.

Participation in functional literacy programmes should be made a compulsory activity under the National Service Scheme. In addition to ensuring greater involvement of non-student youth through Nehru Yuvak Kendras and National Service Volunteer Scheme under programmes like "each one teach one", opportunities should be made available to any educated person, who may volunteer to participate under this programme and Literacy Kits may be supplied to all volunteers participating under "each one teach one" programme free of cost.

The role of the university as a catalyst in the national pro-

gramme for removal of illiteracy should deserve special recognition. As an institution of higher learning, the University should be considered a resource centre, and should assume responsibility for adult and continuing education as part of its social outreach programme. Programmes being implemented in the universities for removal of illiteracy should be so structured as to bring teaching, research and extension under one umbrella. It is important to establish an organic link between adult education, extension services and the university curricula. Adult education should not be considered, merely as a welfare-oriented activity for the benefit of deprived social groups but should be a part of process of inter-action with society leading to acquisition of valuable learning experiences by students and a means for making higher education relevant to the needs of society and oriented towards solution of problems in the society. This should call for each university to evolve a suitable time-frame for eradication of illiteracy. The university should simultaneously provide leadership to its constituent colleges in order to enable them to eradicate illiteracy in the adopted blocks within a similar time-frame.

Mechanics of Functional Literacy—Management of Adult Education Programmes

Literacy programmes more often than not have been planned and designed from of the point of view of the educated sections of the community and what they consider important in terms of socio-economic benefits of literacy. Little effort has been made in seeking the views and perceptions of the non-literates in organising these activities. Interest in functional literacy programmes can only result from a situation where the non-literate milieu—the economically backward, and the socially disadvantaged sections, perceive functional literacy programmes as a tool vital to their own development. In the context of a mass movement, the following issues may be relevant in working out details of planning and management strategies of adult education programmes :

- (i) for whom is literacy crucially important, when and under what circumstances ?
- (ii) what kind of literacy, in what form ? What are the

most effective ways to motivate people in acquiring literacy as may be relevant to their needs ?

- (iii) how can the neo-literates be assisted to retain and upgrade the skills achieved ? What kind of continuing education can be provided within the context of life-long education ?
- (iv) in a society where the oral tradition is strong, how can the transition from an oral tradition to a culture of alphabetization be bridged effectively ?

In a society where illiteracy is predominant, generation of a strong and effective demand for education with the help of all forms of mass media is an essential priority. The benefits of acquiring functional literacy and the handicaps arising out of illiteracy should be demonstrated to the non-literate milieu through the mass media with a view to generate a demand. It would also be helpful if messages from eminent leaders on the benefits of literacy could be widely disseminated. These messages could explain the social obligations on the part of every educated person to share his/her knowledge with illiterates. In a sense, a strong demand for education should lead to creation of an appropriate learning environment with effective community participation.

Adult education should be regarded as a basic human right, indispensable for the realisation of the individual's potential, as well as an essential pre-requisite for national development. Literacy programmes can only be functional if they form an integral part of the total development process aimed at improvement of the living conditions of the people and related to the physical quality of life like health care, nutrition, water supply, housing, education and participation in community activities. "To learn how to improve our lives"—forms the basic orientation of the Tanzanian literacy programme. The strength of the literacy programme in Tanzania is derived from the fact that literacy programmes are totally integrated with development plans. The Brazilian literacy movement

(MOBRAL) also places similar emphasis on teaching literacy to adults as part of the global development process. The night schools, spare time colleges, Agro-technical training schools of China, are again instances of linking adult education with development priorities.

As a basic human right and viewed in the context of continuing life-long education adult education has to be a comprehensive concept which places emphasis on attainment of a minimum level of achievement, retention and use of literacy and numeracy by the learners and inculcation of awareness in them about the socio-cultural development process, and acquisition/upgradation of functional skills. The range of activities undertaken in adult learning centres, in this context, has to be broad-based which should go beyond the provision of mere literacy and numeracy ; the programme should respond to the life situations of learners and provide opportunities for post-literacy followup and continuing education.

The design, content, curricula and method of adult education programmes should similarly take into account the needs of the learning clientele. Motivation and interest for literacy can only be sustained when the learners realise the welfare equivalence of the literacy programme and its outcome. In designing adult education programmes, the social and occupational background of different learning groups should be taken into account, so that a "learner centred" approach could be developed with emphasis on participation of learners at all stages of learning. Participation of learners should be promoted through discussion where questioning is built into the methodology of teaching and learning. The learning should be involved in the analysis of facts and drawing their own conclusions which is the best means of promoting wider awareness. Emphasis on learners' participation, critical analysis and team teaching have contributed in a significant manner to the success of the Nicaraguan Literacy Crusade. Such an approach would call for detailed attention to be given to micro-level planning of adult education lessons with a view to promote involvement of the learning clientele at all stages of planning and promoting self-management of the programmes by the learning clientele.

Training of adult education functionaries should receive far more deailed attention. Training instead of becoming a one time activity has to be a continuing element at all stages of the programme. The training content has to become field-based, methodology of training has to be participatory. In fact, training has to become a concurrent activity forming part of the teaching-learning process where innovative methods are practised and demonstrated. It is equally important that instead of training merely those who are involved in adult education programmes exclusively like instructors and supervisors, common training programmes should be designed and organised for functionaries of various development departments to make the trainees understand the inte-related nature of problems encountered, particularly in rural areas and help them to acquire a common perception of the needs for an interdisciplinary approach. The exploitation of distance education techniques and the modern electronic media for training is essential.

The approach linking literacy with basic services would call for designing a learning continuum comprising both literacy and post-literacy. Materials, handouts produced under different development programmes could be of immense value to the neo-literates in using newly acquired literacy and numeracy skills. Even application forms for cooperative, agricultural land development loans, money-order forms would be of considerable help. Wall newspapers prepared by neo-literates themselves on matters of relevance may also prove effective in ensuring post literacy follow-up through involvement of neo-literates themselves. Post literacy materials should also be made widely available in a wide ranging variety at a low cost. It may be mentioned that under the Cuban Mass Literacy Programme, "a book or educational record could be bought more cheaply than a bottle of soda pop". In the context of linking functional literacy with productivity, programmes like the "lab-to land" under the Krishi Vigyan Kendras, TRYSEM, DWCRA, Shramik Vidyapeeths can play an important role in post litercay follow-up and make meaningful contributions to acquisition of new skills or upgradation of skills.

Functional literacy can be considered an important step towards continuing life-long education. In this context, equivalence of literacy levels with grades of achievement in schools could be considered as incentives for self-improvement and continuing education. Equivalence of literacy levels achieved by adult learners with school achievement levels, which is one of the distinctive attributes of the non-formal education programmes of Thailand, and the Brazilian Literacy Movement as well as in Tanzania could be a positive step towards providing the much needed respectability to functional literacy programmes, and promotion of life-long continuing education.

Adult education is essentially an exercise in communication primarily intended to break the resistance to change and help people, as instruments of change, to adapt themselves to the complexities of a fast changing world. The use of mass media in promoting effective communication has often been advocated and has received special emphasis. The use of mass media, however, has been limited mostly to motivation. Little headway has been made in the use of mass media for instructional purposes. Considering the potential of mass media for mass instructional programmes it would be necessary to develop an effective media-policy. This would call for a shift away from a media-specific approach to a systems approach which uses the print media, radio and the modern electronic media as well as the traditional folk media, as part of an integrated media network directed towards the learning groups. While mass-media, by its very definition can be economical, only when used on a mass scale, in a society, rich in traditional and folk media, various folk art forms of communication like the katha, kirtan, bhavais, jatras, etc. could be used at considerable low costs for motivation of learners, climate building and environmental support to the adult education programmes as well as for instructional purposes.

Again, considering that the oral tradition is still strong in our society, "word of mouth" should be considered an effective means for communicating messages of development,

generating discussions, analysis of facts and learning groups which has the potential of injecting greater relevance to adult education programmes and promotion of increased awareness. Popularisation of science through traditional folk art forms with participation of people is one of the most successful examples of effective communication adopted by the Kerala Shastra Sahitya Parishad at low costs.

The promise of the future

The burden of the past hangs heavily on us. Centuries of colonial domination, deprivation of vast sections of the population from the benefits of development, have slowed down our march towards the cherished goals. The process of modernisation and development involves introduction of new ideas into the social system, with a view to accelerate the process of social change and improve levels of living, through more modern production techniques and improved social organisation. The problems of social change in the Third World countries, however, are derived not entirely from the burden of the colonial past, but more specifically from our inability to face the hard realities confronting us, and take hard decisions.

How would Dr. Zakir Husain have looked at the problem if he were with us today. Addressing a Conference of youth and students more than 50 years ago he observed "we are living in a rapidly changing world and shall be cast away as wreckage if we do not change along with it"....."We must meet the new situation not with the mental equipment that was old and rusty fifty years ago, but with new weapons progress has forged". Again he cautions that while America, Russia, or England may serve as good models for furnishing certain answers "these will be details that must fit into a scheme of things Indian in origin and Indian in character". These observations are as relevant today as they were fifty years ago. Gandhiji's concept of work or life-centred education, as interpreted and theorised by Zakir Sahib was aimed at shifting the emphasis from top heavy bookish education on

to work experience which is an enjoyable method of learning and seeking information. In Zakir Sahib's words "the real 'school of work' trains children to think before they take up an activity and to test and assess results when it has been completed, so that they acquire the habit of doing their very best whether engaged in manual or mental work".

Viewed in this perspective the approach underlying adult education is transformed from emphasis on mere removal of illiteracy to a life-long process of continuing education and self-improvement. Such a concept also represents a dynamic approach to educational reform related to the entire development process as distinct from the static concept of reforms within the existing structure of the education system. Such a concept appropriately places emphasis on the demolition of artificial barriers between the world of learning and the world of work, between school and out of school educational activity and helps us to correct the imbalance implied in learning made synonymous with schooling. The life and career of Dr. Zakir Husain coincides with great social and political upheavals on the Indian scene. In paying our tribute to the genius of creative thinkers like Dr. Zakir Husain we should acknowledge that the first "popular" model of education—Nai Tamil stressing the fundamental role of education for national development was evolved in this country as far back as the thirties, in the context of development priorities of a resurgent India. In relating education to the life, needs and aspirations of the people an essential pre-requisite is the active involvement and participation of those who matter most, namely, the people, in the entire education process—not merely, as clients and beneficiaries of the process but as participants and partners.

The slogan "let the masses educate themselves" which provided the inspiration for the Chinese literacy campaign may equally be relevant in our context today. A mass movement by its very implication can result only from a mass upheaval or upsurge of enthusiasm of the masses, derived from the realisation of the importance and value of education as an essential element vital to their personal development and deve-

lopment of their families. A mass movement can only be launched if there is determined political will with commitment of all political parties irrespective of their political credo, a determination to mobilise all educated sections of the community in a campaign for universal literacy and active support of mass organisations. A mass movement can only be a reality if it becomes part of a national endeavour involving all sections and agencies including trade unions, youth and women, worker and peasants, non-governmental and voluntary associations and grass root level agencies in rural areas.

Education, for changing societies today and tomorrow has two basic dimensions—to prepare for the change and to provide an antidote to the many distortions between man and society. Can education help to prepare the common man for the changes in a fast changing society? One can perhaps seek an answer from Bertolt Brecht's poem: "Praise of Learning" and I would like to conclude by quoting these inspiring words:

"You must prepare to take command now !
 Locate yourself a book, homeless folk !
 Go, search some knowledge, you who freed !
 You who starve, reach for a book :
 It will be a weapon !
 You must prepare to take command now.
 Don't be afraid to question, comrades !
 Never believe on faith,
 See for yourself !
 What you yourself don't learn
 You don't know.
 Question the reckoning
 you yourself must pay it
 Set down your finger on each small item, asking :
 Where do you get this ?
 You must prepare to take command now !"

The question still remains : are we really keen to help the "apathetic throng, the cowed and meek, who see the world's great anguish and its wrong and dare not speak", and help them prepare to take command NOW ?