THE KENYA FUNCTIONAL LITERACY PROGRAMME:
AN EVALUATION

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ABSTRACT

This paper presents the results of an evaluation of the Kenya Functional Literacy Programme, conducted on an experimental basis in six divisions (counties) in different parts of the country as part of the Special Rural Development Programme.

The main problem with the literacy programme may be that it is too ambitious. Through the same set of texts it attempts to achieve three goals: first, the attainment of literacy, second, knowledge of the Swahili language, and third, knowledge of practical facts about agriculture, health and household management. By not establishing a priority order among these objectives, the programme risks failing to attain any of them.

Little advantage is taken of the fact that Swahili, unlike English, is a phonetic language in which sounds are connected to written symbols in a rational and consistent manner. Students are not systematically taught the sound-values for each symbol, so they acquire only slowly the knowledge and skill needed to tackle the reading of new words for themselves. Instead, throughout the course each new word is learned first as a whole, by rote-memorisation. The period in which students remain intellectually dependent on their teachers is thus prolonged.

An alternative teaching method based on the rapid breaking down of a few well-known and meaningful generative words into their simplest components is suggested.

Virtually no account is taken of the fact that for most learners Swahili is a little-known second language. The order in which new words are introduced bears little relationship to their linguistic or phonetic difficulty. Forgetting of new words thus tends to be rapid.
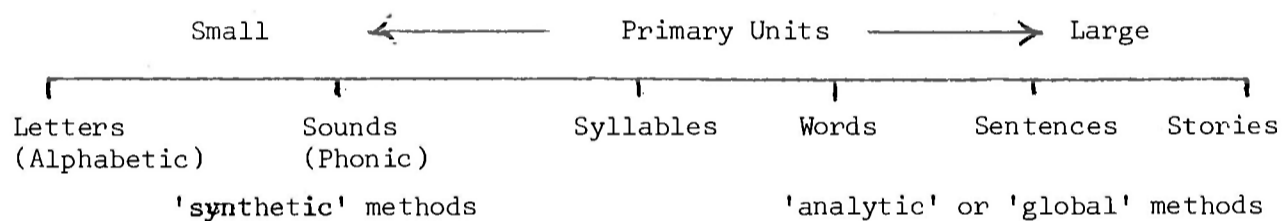
The information and advice given in the booklets about farming is sometimes inconsistent with existing knowledge, and often fails to take into account the constraints under which low-income families in Kenya live. If the new information to which learners are exposed is not both accurate and relevant, very little of what is taught will lead to permanent behaviour changes.

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      This report is divided into three sections. In the first section, we shall discuss the teaching methods used in the Kenya Functional Literacy Programme. Then we shall turn our attention to the content of the literacy lessons. Finally, we shall discuss the administration of the Programme.

TEACHING METHODS

      How best to teach reading is a topic which has generated a great deal of controversy over many years. Methods which have been used can be arranged along a continuum, according to the emphasis which they place on building up from small units towards larger ones ('synthetic' methods) or downwards from large units to smaller ones ('analytic' or 'global' methods).

Small   ←—————— Primary Units ——————→ Large

Letters (Alphabetic)	Sounds (Phonic)	Syllables	Words	Sentences	Stories

      'synthetic' methods   'analytic' or 'global' methods

      At one extreme of the continuum is the formalistic and now superceded 'alphabetic' method. Pupils were first drilled in the names of the letters of the alphabet (ay bee see), and then taught their sounds. When these had been mastered, the sounds were built up into words (b - a - g), and these words combined into sentences. Because of the phonetic constraints, these sentences were often virtually meaningless ("The cat sat on the mat in a hat"). At the other extreme are methods in which a phrase, a sentence, or even a whole story is taken as the primary unit of meaning. When the pupils have grasped the meaning of the whole unit, they analyse it into its component parts; first the words, then the syllables, and finally, perhaps, the individual sounds and their alphabetic names.

      Most practical reading methods fall somewhere along the continuum between these extremes. During the 1950s analytic methods, based on the whole word or on larger units of meaning, had a tremendous vogue. The pupil was taught to regard each word essentially as a picture; he looked at its contours and then said its meaning, without analysing it into sounds or syllables. An important advantage of this method is that by focussing on the meaning of whole words and groups of words, it arouses the learner's interest in the content of what he is reading and thus maintains his incentive to go on learning. But its more extreme proponents tended to forget that the letters and syllables from which words are made up are not arbitrary; they also convey meaning, although,

of course, of a lower order of generality. Without access to this meaning,
the learner is handicapped. Even with a non-phonetic language such as English
the constituent parts of a word usually convey some information as to how the
word should be sounded. The information may be incomplete or faulty, but at
least the range of alternatives from which the learner must choose is greatly
reduced. With a fully phonetic and strongly syllabised language such as Swahili
there is a great deal to be gained from teaching the sound-values of letters
and syllables very early in the learning process.

But purely synthetic methods also have their disadvantages. As
we have already noted, if the attention of the learner is focussed too strongly
on the smallest building-units, the sounds and the syllables, he may well lose
sight of the message the writer is attempting to convey. Learning tends to get
bogged down in a tedious morass of drilling and repetition.

Recent attempts to devise reading schemes have for the most part
avoided dogmatic adherence to either synthetic or analytic methods, but have
tried instead to combine the best features of both in an eclectic approach.
The balance between the two methods will depend mainly on the characteristics
of the language in which the learners are to become literate. In languages
such as English where the links between the written symbols and the spoken
sounds are weak and irregular, the analytic or global method will play a large
part. But only with those languages where the elements of the written word give
no clue as to how it is spoken (Chinese is the obvious example) will a purely
global approach be appropriate.

The fact that Swahili (together with most other East African
languages) is both phonetic and strongly syllabic gives it an enormous
advantage over English as a vehicle for a literacy programme. It means that
pupils can learn to read Swahili words quickly and easily, even if their knowl-
edge of the language is only fragmentary.[1] Swahili uses only five vowels and
25 consonants, and these 30 sounds are invariably represented by the same
written symbols. Once he has mastered these basic symbols, together with their
common syllabic combinations, the learner's main literacy problem as been
solved. He can then concentrate on learning the language, which is likely to
be a much more difficult task.

1.   Karen Blixen, an early settler in Kenya, recounts in her autobiography,
Out of Africa, (London, Putnam, 1937, paperback edition, London, Cape, 1964, pp.
132-133) how she could read her employees' Swahili letters for them soon after
arriving in the colony, and before she could hold the simplest Swahili conver-
sation. Her employees could speak the language but not read it, whereas she
could read the language but not speak it!

The Kenya Functional Literacy Programme follows a mixed analytic-synthetic method which has now been tried in a number of countries. The basis of the approach is a list of key words, (sometimes called the "generative" words) which are chosen so as to cover all the sounds used in the language. The pupils learn to recognise the key words one at a time, or in small batches, first in conjunction with relevant pictures, and then on their own. As soon as a new key word has been mastered, the pupils are encouraged to break it down into syllables, and then to recombine the syllables so as to generate new words. During the first two or three lessons the possibilities for recombination are of course rather limited, but as each new generative word is learned the alternatives multiply rapidly.

The next stage in most programmes is to analyse the syllables into their component sounds. This may be started right from the first lesson, or it may be delayed until the learners have built up a stock of known syllables. Once they have mastered this step, the range of words which learners can construct from their own resources is, of course, enormously extended.

The first two key words introduced in the Kenya Functional Literacy Programme are udongo (soil) and tofauti (different). They were presumably chosen because of their relevance to the content of the course: the first book deals with types of soil, the use of fertilisers and soil erosion. The teacher introduces them during the first lesson, using flash cards. He then shows the pupils how to break the words up into syllables: u-do-ngo and to-fa-u-ti. When they have mastered this, the teacher encourages them to recombine the syllables to form different words. Some suggested new words are given in the text for each lesson: those for the first lesson are ufa (crack), ungo (joint) and uto (a kind of oil).

But there is a major difficulty here. In other countries where literacy programmes have been mounted, most learners have had a sophisticated, adult knowledge of the spoken language. They have lacked only the ability to read and write it. Thus once the recruits have learned the first few generative words, and have grasped the principles of analysing and resynthesising them, they can begin forming and reading new words for themselves, without help from the teacher. From the very first lesson they can become active participants in the learning process, and can discover as much from their own efforts as from what the teacher tells them. If the language is fully phonetic most of them should have mastered all the skills needed to read any text written within the vocabulary of the average adult within a few months.

But in Kenya the problem is more complex. Standard Swahili, the
language of instruction for the Functional Literacy Programme, has an elegant
grammar and a rich vocabulary, but it is spoken as a first language by only
a minority of Kenyans, most of whom live along the narrow coastal strip. In
up-country districts Swahili is used widely as a lingua franca, but the gram-
mar is usually simplified and the vocabulary restricted. The typical
recruit to a functional literacy class is unlikely to have a working vocabulary
of more than a few hundred words. In some districts and among some groups
(for example, those without experience of working in a formal job) the
typical vocabulary of known words may be a good deal smaller. Most new
recruits to literacy classes probably know the word udongo, and a smaller number
probably know tofauti, but very few indeed are likely to have ever heard ufa,
ungo or uto.

During the visits to literacy centres we made while carrying out the
evaluation we discussed this problem with a number of the instructors. Most of
them admitted freely that they themselves had not known any of these words
before joining the Programme. Nor is it possible to form other, better-known
words from the syllables of the first two generative words. The instructors
could not remember any student coming up with a single suggestion. They had
thus had to show the students how to form the new words, and, furthermore,
to explain what they meant. The generative words for the second and third
lessons (aina, za, ni, nini and hizo) were not much more fruitful. Hence,
far from engendering attitudes of active participation among the learners,
the opening lessons of the course had quite the opposite effect. The only
response which a new recruit could make was one of passive acceptance of what
his teacher told him. Progress towards gaining independent mastery over his
own learning processes was virtually impossible.

It is not only the derivative words that cause problems. A high
proportion of the generative words are also little known. Examples from the
first reader include: rutuba (fertility), kinyesi (manure), mkondo (flow of
water) and mtelemko (downward slope). We asked the students in one literacy
class to explain to us the meanings of five of the more difficult words from
the second reader which they had just completed. The words were kudumu (to
last), maradhi (sickness), kupalilia (to pile in heaps), kustahimili (to
endure), and dhaifu (weak, poor quality). Although they had been introduced to
all these words within the past few weeks, not a single student could remember
even one of them. Clearly it is unrealistic to expect new recruits, preoccupied
with the task of learning to read and write, to memorise at the same time large
numbers of uncommon words, well outside the range of their known vocabulary.

It may well be that the main problem with the Functional Literacy
Programme is that it is too ambitious. For the Programme not only attempts
to teach its recruits practical facts about farming, household management
and health at the same time as it teaches them to read and write, but it also
undertakes to teach them the language through which they learn the facts
and express their new literacy skills. In other words, the Programme has three
goals: to teach literacy, to teach the Swahili language, and to provide practical
adult education. Perhaps this triple burden is too heavy for it to bear, and
more modest goals need to be set up.

Nevertheless the attempt to combine the three goals in one programme
is well worth making. There are obviously major savings in time and money
if they can all be attained successfully. Fortunately there is one important
factor which makes the task a great deal easier. As we have seen, Swahili is
a fully phonetic and strongly syllabised language. Unlike English, the
words are built up from the smallest sound units in an orderly, logical and
entirely consistent manner. Once the system is understood, learning to read
becomes a great deal easier. It should therefore be possible for recruits to
become fully fluent in reading and perhaps writing Swahili within a matter of
months provided that in initial stages of the programme the attainment of
literacy is given priority over the other two goals. This means that in
constructing the first two or three readers the vocabulary used must be confined
to words which are widely understood in rural Kenya. It also means that in
these introductory readers it may not be possible to orient the content so
strongly towards specific, work-oriented topics as has been done in the experi-
mental readers.

In evaluating a programme conceived and carried out by other people
it is always easy to point out the shortcomings, but much more difficult to
suggest alternative approaches which might work better. Very few projects
indeed ever succeed in achieving fully the ambitious goals with which they
started, and an evaluation which is nothing but a catalogue of criticisms is of
limited use in devising future policy. For this reason we shall concentrate in
the remainder of this section on suggesting some ideas as to the form which the
first few lessons of a revised Functional Literacy Programme might take. It
should be stressed that these ideas are tentative and only partially worked out,
and we have had only limited opportunity to test them in the classroom. A
great deal more effort and ingenuity would have to be expended on them before
they could be developed into a usable programme. Further comments on the
teaching methods used in the existing programme will take the form mainly of
comparisons with our alternative proposals.

The first lesson might start by introducing the generative words kusoma (to read) and kulima (to cultivate). These two words have a number of advantages over other possible choices. In the first place, and perhaps most important of all, they are words which are widely understood all over Kenya. We do not have Swahili word frequency lists for Kenya, but in lists based on written materials used in Tanzania, kusoma is number 65 in frequency of use (that is, only 64 other words are used more commonly) and kulima is about number 160. Udongo and tofauti, the first two words in the present Functional Literacy Programme, are at about numbers 240 and 350 respectively.[2]

The second advantage of these words is that they are highly relevant to the lives and perceived needs of the participants. The new learners have come to the class because they want to know how to read (kusoma) and also how to be better farmers (kulima). Thus each generative word points towards a major concern of the participants and a major goal of the Programme, and by so doing should strengthen their incentive to persevere with the course.

A third point is that the words lend themselves very easily to illustration. Good, clear photographs or drawings are especially important early in the course before the pupils have learned how to analyse words into sounds, and are therefore dependent on memory. Of the six key words introduced during the first three lessons in the Kenya Functional Literacy Programme, only one (udongo) is capable of being illustrated.

Fourthly, the words break easily into syllables: ku-so-ma and ku-li-ma. Moreover, the syllables are all of a single type; each consists of two letters, made up of a consonant followed by a vowel. It is probably advisable to delay introducing more complex syllables - such as those in which a single consonant is represented by two letters (for example, sh in shi-ka), or in which two separate consonants precede the vowel (for example, ngo in u-do-ngo) - until a number of simple two-letter and one-letter syllables have been mastered.

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2.   The Tanzanian written Swahili word frequency lists were constructed by Dr. Marian Halvorson, Literacy Consultant to the National Christian Council of Kenya. We are most grateful to Dr. Halvorson for making them available to us.

It should be pointed out that the use of frequency counts from written materials has limitations. Many words, especially common nouns, are widely used in everyday spoken Swahili, but are met with less frequently in books, magazines and newspaper articles. Examples are chai (tea), kuku (hen), duka (shop) and pombe (beer). It would obviously be more satisfactory to use statistics indicating how widely the various words are known, especially by potential recruits to literacy programmes, but unfortunately such data are not available.

Fifthly, the generative words have two syllables, ku and ma, in common. Thus the amount of new learning involved in mastering the second word is reduced to one syllable only. Further, pupils are introduced to the principle that a syllable is always pronounced in the same way, no matter what word it appears in.

How much repetition is needed among the syllables and sounds of the generative words depends mainly on the level of familiarity the learners have with the spoken language. When the literacy programme is being conducted in the learner's mother tongue, systematic repetition is probably unnecessary. In Paolo Freire's programmes for native Portuguese speakers in Brazil, for instance, only about 15-17 generative words were used to cover all the sounds in the language. But when, as in Kenya, most learners have only a limited familiarity with the spoken language, some opportunity to hear the syllables and sounds in different contexts is certainly needed. No matter how commonly-used the chosen generative words may be, there will always be some pupils who do not know them all. It seems likely that after the first few lessons repetition of known syllables in new generative words could be dropped, but that repetition of known sounds in new syllabic combinations would need to be more extensive. At a guess, the full list of generative words might number somewhere between 30 and 40.

The sixth and final advantage of the generative words kusoma and kulima is one of the most crucial. The syllables which make them up can be rearranged to form three simple words, all of which are widely known. Mama (mother) is one of the commonest words in Swahili; only 33 other words were ranked higher in the Tanzania written word frequency counts. Kuku (hen) ranked at about number 400, but in everyday spoken Swahili it is used more often. The third word, mali (property, wealth, goods) is also listed around number 400, but again this ranking is somewhat deceptive. The word is widely under-stood by rural Kenyans, especially in economically advanced areas, where the acquisition of wealth has become a major preoccupation. In most parts of the country it would probably be uncommon to find any new recruits who did not know at least one of these derivative words; a majority would probably know two of them, or perhaps even all three. Hence, if the teacher is skillful, there is no reason why most students should not return home from their first lesson with the satisfaction of having read and understood at least one word for themselves, without being helped. None of the three derivative words for the first lesson of the Kenya Functional Literacy course (ufa, ungo, and uto) are used commonly enough to appear at all among the 1,000 words covered by the Tanzania word frequency lists; and, as we have seen, none of them was known by any of the learners in the classes taught by the teachers we consulted.

Students might perhaps begin the second lesson by revising the five
words learned during the first lesson, with the additional help of pictures for
the three derivative words. (These pictures would not be introduced during the
first lesson, because the learners should try to synthesise the derivative words
from the syllables they already know, without extra help.) Then the new
generative words would be introduced. Suitable choices might be: pesa (money),
watoto, (children) and the phrase hakuna kazi (no work). Pesa and watoto are
both widely known; their rankings in the word frequency lists are about numbers
160 and 100 respectively. They are both easy words to illustrate, and for most
Kenyans carry heavy loads of meaning. Between them they introduce the two
remaining vowels, e and o, which were not learned during the first lesson,
together with the consonants p, w and t. The vowel a and the consonant s are
repeated, but in different syllabic combinations.

The phrase hakuna kazi probably appears on Swahili signboards in
Kenya often than any other, with the possible exception of mbwa mkali (fierce
dog). It is to be seen at factory gates, on building sites, and at the
entrances of offices and shops, and is well known to anybody who has ever been
a jobseeker. Its use as a generative phrase gives the teacher the opportunity
to initiate a discussion of the problems of unemployment with the class. If
he does not have a job (kazi) how can someone get money (pesa) and provide for
his children (watoto)? One of the purposes of the Functional Literacy
Programme is to help people who cannot get paid jobs to earn more money
through better farming (kulima), better household management, and, perhaps,
through participation in trading or business. Learning to read (kusoma)
gives people access to knowledge, and this can be a powerful weapon in reduc-
ing the problems of poverty. Using the illustrations for the five generative
words and phrases introduced so far, the teacher should have little difficulty
in starting a lively discussion.

Phonetically, the phrase hakuna kazi is equally useful. It repeats
the syllable ku, but in the middle of a word rather than as the initial
syllable. It also repeats the known vowels a and i, but in new syllabic
combinations: ha, na, ka, and zi.

The syllable na is especially important, for it provides the
learners with a key whereby they can start reading and writing whole sentences
rather than just single words. As an infix between the pronoun and stem of any
verb, na denotes the present continuous tense, (for example, wa-na-soma, they
are reading), which is the simplest and most useful tense for beginners to learn.
Furthermore, in conjunction with a pronoun, but without a verb stem, na denotes

the present tense of the verb to have, (e.g. wana - they have); and as a single word on its own it corresponds to the English word 'and'.

Common words which can be generated from pesa, watoto and hakuna kazi include sasa (now), sawa (correct, or smooth), kutoka (to go out) and sana (very much). In combination with the two generative words from the first lesson they also give rise to: matope (mud), wali (cooked rice), mapema (early), kupewa (to receive), maziwa (milk) and kali (angry, fierce). But as well as these, there are also the verb-forms wanasoma, wanalima, wanatoka and wanapewa. And these verb-forms can be used to create simple sentences, which might be presented to the students on cards, illustrated with photographs:

> mama na watoto wanasoma
> (the mother and the children are reading)
>
> sasa mama na watoto wanalima
>
> (now the mother and the children are cultivating)

These sentences are especially important, because they provide the learners with tangible evidence of their progress. Although they have been attending classes for only a few sessions, they are already able to read simple sentences from their own resources with little or no help. Confidence in one's ability to master new skills is a powerful incentive to continued effort. From this point on, similar passages should form a part of every lesson.

The work just outlined, springing from the second batch of generative words, is probably enough to keep students busy for at least two lessons. When they finish it, perhaps by the end of the third or fourth lesson, they should be able to recognise at least ten derived words, as well as the six generative words. They will also have made their first attempts at reading simple sentences. They will have met all the five vowels (a,e,i, o, u), and ten consonants (h, k, l, m, n, p, s, t, w and z), but so far only in syllabic combinations.

The next batch of generative words to be introduced might consist of: jikoni (kitchen, literally 'at the fireplace'), duka (shop) and kulipa (to pay). These words are again widely known, easily illustrated and relevant to the lives of all rural Kenyans. They introduce two new consonants (d and j), bringing the total to twelve, and five new syllables, two of them involving the new consonants (du and ji) and three involving known consonants in new combinations (ko, ni and pa). The derivatives they give rise to include such significant words as maji (water), dudu (insect - commonly used for agricultural

and household pests), jiko (fireplace - now used often for charcoal braziers made from scrap metal), hapa (here) and hapana (literally 'here is not', commonly used to mean 'no').

At this point the learners have been introduced to seventeen syllables, set out in the following table:

Consonants

vowels	d	h	j	k	l	m	n	p	s	t	w	z
a		ha		ka		ma	na	pa	sa		wa	
e								pe				
i			ji		li		ni					zi
o				ko					so	to		
u	du			ku								

It will be seen that of these seventeen known syllables, seven are from the family involving the vowel a (ha - ka -ma - na - pa - sa -wa). The i family is represented by four members (ji - li - ni - zi); the o family by three (ko - so - to) and the u family by two (du - ku). The only vowel which has appeared so far in only one syllabic combination is e. Three pairs and one triad involving a common consonant are also represented (pa - pe, na - ni, sa - so, and ka - ko - ku). Within each group the common consonant is coupled once with the vowel a and at least once with one of the other four vowels. These consonants thus establish links between the a vowel family and each of the other four vowel families. We shall see shortly that these 'consonant links' between vowel families make it easy for learners to learn new syllables, without having to meet them first in generative words.

The learners are now ready to take a major step forward. Until now they have broken down the generative words only as far as the syllables and then recombined these syllables to make new words. With the knowledge they now command, it should be easy for them to grasp the principle that the syllables themselves can be broken down into simpler building-blocks, each composed of a single sound and represented usually by a single letter.

It should be stressed that our ideas as to the methods which teachers might use to bring their pupils to this crucial insight are tentative. They need a great deal of testing and revision. In particular we are uncertain as to how rapidly it would be feasible to make the changeover from syllabic to predominatly phonetic (single- sound) units. All told,

Swahili uses nearly 200 different syllables. Clearly, if all of these were to
be introduced initially through the generative words, the acquisition of literacy
would be a long, drawn-out process. But on the other hand, pupils probably
need a certain amount of practice at recognising syllables before they are
ready to begin tackling the building up of words from single sounds. If the
changeover is made too quickly, learners are likely to lose their fluency in
reading whole words and sentences.

To a certain extent we are dealing with a tradeoff situation.
If we decide to concentrate on the larger units, that is the generative words
and the syllables, we will place a heavy burden on the learner's capacities for
memorising and recapitulation, but will make relatively light demands on his
abilities to synthesise known elements into larger arrangements with new meanings.
If, however, we stress the smallest units, that is the separate sounds, the
balance is reversed; there will be relatively little memorisation to be done,
but a great deal of synthesising. As we have seen, Swahili uses only 30
different sounds, which are always represented by the same written symbols. The
choice, in other words, is between memorising a large number of big units and
then learning to arrange them in relatively simple combinations, or alter-
natively memorising a much smaller number of small units and then learning to
arrange them in more complex combinations. Thus, in deciding the teaching
method to use we are at the same time largely determining the type of intel-
lectual skills the course will demand.

In any practicable reading scheme there will obviously be some
teaching at each of the three levels: the whole-word level, the syllabic
level, and the phonetic (single-sound) level. But in our view there are
overwhelming advantages in moving away from memorisation towards a full
engagement of the pupils' capacities for synthesis as early as possible in the
learning process. Memorisation is essentially a low-level activity, which
requires of the learner mainly that he act as a passive recipient for information
coming from an authoritative source - in this case the literacy teacher. Thus
a stress on memorisation as the principal teaching method implies a prolonged
period of intellectual dependency. Synthesis, by contrast, is a much more
active process, and one which involves a wider spectrum of abilities. The
learner starts with his elements of remembered knowledge, but must work with
them to create new combinations which express new meanings. He arrives at these
new meanings by his own efforts, and in so doing gradually takes charge of his
own learning, and weans himself from his dependency on his teacher. The satis-
faction which he experiences when he reads and understands a new word without
being helped provides a powerful incentive for continued learning.

The implication is clear: the move from whole-word and syllabic teaching towards phonetic methods should be made as rapidly as is consistent with the maintenance of reading fluency. The purpose of the generative words is to introduce the full range of separate sounds in meaningful contexts, and to provide enough repetition for recognition to become easy and automatic. Once this has been achieved, generative words are no longer needed.

The first step in the changeover from syllabic to phonetic units would be perhaps to introduce single sounds in contexts where they represent whole syllables, as for example the vowel a in a - na - so - ma or the consonant m in m - to - to. All the five vowels, together with the consonants m and n, are commonly used as full syllables in Swahili. These single-sound syllables are easier to recognise when they occur at the beginning of a word (e.g. a - na - so - ma) than they are in the middle (ku - fu - a - ta) or at the end (ku - to - a), so we would introduce them first in that position. The next step might be to show pupils how to derive new syllabic combinations from known single sounds. With these two bridging steps mastered, students should be ready to tackle the sound-values of the consonants which never constitute whole syllables, and thus move towards fully phonetic reading.

The teaching outline which follows is meant simply to suggest some practical methods by which the first of these steps might be introduced in the classroom. The sequence is as follows:

1. A single vowel forming a complete syllable at the beginning of a word.

2. A single consonant forming a complete syllable at the beginning of a word.

3. A new syllabic combination, made up of known sounds.

It is difficult and cumbersome to describe teaching methods on paper, partly because of the problem of distinguishing between what the teacher says and what he writes on the blackboard, and partly because what he does depends so much on the response he gets from the learners. In the classroom, the methods would seem much more straightforward.

The teacher might start by asking his pupils to compare the known words ku - so - ma and ha - ku - na. He writes them on the board and gets the learners to say them slowly, separating the syllables. He then elicits from them the fact that the first syllable of kusoma is the same as the second syllable of hakuna, but that the other syllables are different.

Then he invites the students to look at and listen to the last two
syllables, ma and na, carefully. Are they completely different, or are they
alike in any way.

What the teacher does now depends on the replies he gets. If he
has led up to the point well, nearly everyone will be prepared to volunteer
some answer such as, "They start off differently, but they end in the same way".
If he gets a response of this kind, he appeals to the rest of the class: "Is he
right?" "Yes." But if most of the students seem hesitant, he goes back to
the syllables and tries again. The key point is that the teacher, having
assembled all the facts the learners need to solve a problem, never tells them
the answer, but rather elicits the answer from them. He leaves them to close
the 'insight gap' for themselves. Further, having elicited an answer from a
volunteer the teacher does not confirm or reject it himself, but rather appeals
to the rest of the class: "Is he right?" In this way, each learner internalises
the answer; it is a solution to the problem that he and the rest of the students
have worked out for themselves, not one that has been imposed.

The teacher then writes other known words containing syllables from
the a vowel family on the blackboard, one at a time: pe - sa, du - ka, wa - to - to,
ku - li - pa. Can the pupils find other syllables in these words which end
with the same sound? As each new syllable is identified, a student adds it to
a list on the blackboard:

              ma

              na

              sa

              ka

              wa

              pa   etc.

Everyone now reads these syllables out aloud together, listening
to the sounds. Teacher: "So what is the sound that they all end with?"
Students: "a".

Teacher: "Now, supposing we want to write just the sound a by
itself. How do you think we could do it?" A volunteer writes his answer on
the blackboard. Teacher: "Is he right?" "Yes."

The teacher moves immediately to consolidate the new knowledge by
using a as a separate syllable in a meaningful context. "Here is a problem for
you. We know how to write

     wa - to - to   wa - na - so - ma

But here is a picture of the mother reading by herself. How do you think
we could write 'mama anasoma' underneath it?"

A volunteer writes his solution on the board, and the teacher
confirms it from the class, as before. The teacher then writes the second
sentence below the first so that the syllables can be compared, and everyone
looks at them and reads them slowly:

              wa - to - to   wa - na - so - ma

              ma - ma   a - na - so - ma

The teacher might then introduce the following story, illustrated
with photographs. The story uses only known words:

          mama analipa pesa dukani

          (mother is paying money at the shop)

          sasa mama anapewa jiko

          (now mother is receiving a charcoal brazier)

          sasa mama na watoto wanatoka dukani

          (now mother and the children are leaving the shop)

This story gives the learners practice in recognising the vowel-
syllable a in association with two other verb stems, and further practice in
differentiating a from wa. It also, of course, provides them with more
evidence of their progress in learning to read.

In the next lesson the learning continues. The teacher might
begin by reading the known sentences:

              ma - ma   a - nasoma

              wa - toto   wa - nasoma

"But here is a picture of only one child reading. So we need to write mtoto
anasoma."

"We know how to write ma (ma - ma) and we know how to write a on
its own (a - na - soma). So how do you think we write m on its own,[3] so that
we can write mtoto?"

The teacher then elicits and confirms the correct answer, using the
methods already described. He continues:

---

3.   Single consonants are, of course, much more difficult to sound
than single vowels. In Swahili, however, the consonants m and n are relatively
simple, because, as we have seen, they often constitute complete syllables.
Sometimes these syllables even carry a stress (e.g. m - bwa, m - bu). It thus
seems justified to introduce these two single consonants early in the teaching
sequence.

"So now we can write:

```
ma - ma     a - na - soma
wa - toto  wa - na - soma
m  - toto   a - na - soma
```

"But perhaps you might want to write 'I am reading' (ni - na - so - ma). How do you think we could write that?" The syllables of ninasoma are all known, although this particular form of the verb is a new derivative. When the syllables have been correctly assembled, the teacher continues:

"But most people when they have learned to read are very happy. Suppose you want to write 'mimi ninasoma', and not just 'ninasoma' (I myself am reading, with emphasis on the personal pronoun). How do you think we could write 'mimi'?

"We know how to write na (wanasoma, analipa) and we have written ma many times (mama, anasoma). We also know how to write ni (jikoni, dukani). So we can write ni, na, and ma. In fact there is one word we have written today where we use all three of them. Can anyone think which word it is? (Ni - na - so - ma). We can write them on the blackboard like this:

```
na          ma
ni
```

Everyone then reads the syllables aloud from the blackboard, in all possible arrangements: na - ma, na - ni, ni - na, ma - na.

Teacher: "We can read across: na - ma. If we wanted to read the next line, we would start with ni; and what would we say next? Listen: na - ma, ni - ?" If the learners seem puzzled, the teacher might recall some more known syllables from the a vowel family, for instance sa (pesa) pa (lipa) and wa (watoto), and add them to the top line:

```
na          ma     sa    pa    wa
ni                 ?
```

"Starting with na, we can say ma, sa, pa, and wa. So if we start with ni, what would we say?"

The teacher thus elicits the new syllable mi from the known syllables na, ma, and ni, and the learners can now add mimi ninasoma to their list of sentences:

```
ma - ma       a - na - soma
wa - toto    wa - na - soma
 m - toto     a - na - soma
mi - mi      ni - na - soma
```

The next step might be to introduce the vowel a in contexts
where it follows rather than precedes other syllables, and is thus more
difficult to recognise as a separate syllable. This might be done by
comparing the known word ku - to - ka with the new but commonly used ku -
to - a (to give out). The single sounds a and m, and the 'derived syllable'
mi, would then be used, together with the known syllables, to construct new
derived words. There are many possibilities, including m - soma - ji (reader,
pupil) m - kulima (farmer), ku - mi (ten), mi - a (hundred), m - ji (town),
m - to (river), du - ni - a (world) and mi - wa (sugarcane). With the
resources of generative and derivative words now available, construction
of further sentences for reading practise presents little difficulty.

It will be seen that the method we used to derive the new syllable
mi was to use the consonant family na - ni to establish a link between the a
and i vowel families. It would be quite feasible to carry on in the same
way, using the same 'consonant link' to fill in all the gaps in the two vowel
families:

```
a   ha   (ja)   ka   (la)   ma   na   pa   sa   wa   (za)
(hi)  ji   (ki)   li   (mi)   ni   (pi) (si) (wi)   zi
```

Note: The derived syllables are indicated by brackets, and the
'consonant link' by an arrow.

In fact it would not be difficult to continue, using all the
consonant links (na - ni, pa - pe, sa - so, and ka - ko - ku), until all
the 60 possible two-sound combinations of the 12 known consonants and the 5
vowels had been mastered. The 17 syllables introduced through the generative
words would thus give rise to 43 derived syllables. These new derived
syllables, in turn, would be used to construct new derived words. While this
was going on, the sound-values for the individual vowels and consonants
would gradually be taught, using the methods we have already outlined for a
and m.

During all this work, no new generative words would in theory be
needed. In practice, however, generative words would almost certainly be
used from time to time, to introduce the remaining consonants and the more
complex syllables, involving three or more elements.

By now the principles underlying our suggested methods should be
clear, and we shall not pursue our step-by-step account any further. In any

case, as we have already said, the details are highly tentative, and are
meant simply to illustrate an approach. Development of a practical course
along these lines would require a great deal of experimental work in the
classroom.

Let us now try to summarise our discussion. We have argued that the
Kenya Functional Literacy Programme may be too ambitious, in that it attempts
to achieve three separate goals at the same time. First, it tries to teach
literacy. Second, it tries to teach the language, Swahili, in which literacy
is to be acquired. Third, it attempts to be a programme in adult education,
teaching practical facts about agriculture, health and household management
in the texts which are also teaching literacy and the Swahili language. By
not establishing an order of priority among these three objectives, the
programme runs the risk of failing to achieve any of them.

We feel that there is a strong case to be made for tackling the
teaching of reading and writing first, and for subordinating the other two
objectives until this has been achieved. Teaching literacy in Swahili should
be a relatively straightforward task, provided it is recognised that most rural
Kenyans have only a limited knowledge of the language, and provided also that
every advantage is taken of the fact that Swahili is fully phonetic. Once
participants can read and write simple, everyday Swahili with fluency, they
will be able to turn their attention to extending their knowledge of the
language. They will also be a great deal more receptive to the adult
education component of the Programme.

We have attempted to outline some methods by which participants
might be taught to read and write quickly. We saw that Swahili uses only 30
different sounds, and that each sound is always represented by the same
symbol, which usually consists of only one letter. Hence, in theory all a
new learner needs to do in order to be able to read Swahili is to learn the
sound values associated with the 30 different symbols. In practice, however,
a teaching method which started by introducing these smallest sound-units
would inevitably involve a great deal of repetitive and somewhat meaningless
drill. The learners would probably have difficulty in acquiring the fluency
needed to synthesise whole words, and there might well be problems in main-
taining their motivation to continue with the course. We therefore feel that
initially a whole-word approach should be used, to provide a framework from

which learners can move rapidly to phonetic reading. These whole words (the
generative words) would be chosen on the following criteria:

1. They should be commonly used words, widely understood in
rural Kenya.

2. They should have relevance and meaning in terms of the life-
styles and perceived needs of literacy course participants.

3. They should be concrete words, capable of being illustrated
with photographs or drawings.

4. They should break easily into syllables. For the first few
lessons these syllables should be of the simplest type, consisting of a
single consonant followed by a single vowel.

5. The constituent syllables of the generative words should be
capable of rearrangement to form other derivative words. A high proportion
of these derivative words should also be familiar and meaningful to the
learners.

6. In the early lessons the generative words should introduce
learners systematically to the five major syllable families involving the
five vowels, and to consonant links from which the learners can derive new
syllabic combinations inside these families. Later, the generative words should
introduce the less common sounds and the more difficult syllabic combinations,
such as those involving more than one consonant before the vowel.

The crucial point, however, is that the usefulness of the generative
words is strictly short-lived. Their purpose is simple to provide a meaning-
ful context from which students can educe the sound-values of the units
from which words are made up, and thus learn to read phonetically. In our
illustrative lessons, students learned the sound for the vowel a because they
wanted to write the sentence, mama a - nasoma, having already written watoto
and kusoma as generative words, and mama as a derivative. Similarly they
learned the sound for the single consonant m because they wanted to extend the
writing to include m - toto anasoma, and they derived the new syllable mi so
that they could write mi - mi ninasoma. In each case the new unit was the only
unfamiliar element in a known context, and furthermore, the pupils had a real
purpose in learning it.

Using these techniques, it should not be difficult to move quite
quickly away from whole-word towards phonetic methods, teaching the learners
the sound-values of the smallest units whilst preserving their fluency in
reading whole words and sentences. The rather meaningless drilling usually

associated with the early stages of phonetic teaching is avoided, but at the same time pupils are not expected to go on memorising whole words for a moment past the point when they have mastered the tools they need to synthesise the words for themselves. The students' higher-level intellectual capacities are engaged as fully as possible, while the minimum use is made of rote memory and recall. The aim, in short, is to capitalise on the advantages of both methods, but to avoid their complementary disadvantages.

The suggested learning sequence is summarised in the accompanying chart. (See Figure 1.) The three main levels of analysis are listed from top to bottom: first the whole words, then the syllables, and finally the single sounds. The generative words and their component parts are listed on the left hand side of the chart; the syllables and words derived from these components on the right. The seven major activities involved in learning to read (apart from memorising the generative words) are indicated by arrows, and numbered from one to seven. Activities indicated by downward-sloping arrows are mainly analytic, whereas upward-sloping arrows indicate synthesising activities. Thus arrow number 3 indicates the breaking down of the syllables of generative words into their component sounds; while arrow number 5 indicates the building up of derived words from derived syllables. The activities are numbered roughly in the order in which they would be introduced to new learners. During the early lessons, learners would be engaged mainly in activities 1 and 2, together, of course, with memorising the generative words. Later, activities 3, 4 and 5 would become more important, as the learners begin breaking the component syllables into separate sounds and deriving new syllables from the vowel families and consonant links. Finally, as they move towards fully phonetic reading, activities 5, 6 and 7 would predominate. It will be seen that as learning progresses, there is a change in the dominant mode of intellectual activity: at first it is memorisation, then analysis, and finally synthesis.

The chart is of course highly stylised, and learning any new word (apart from the generative words) would almost always involve more than one of the numbered activities.

It may be useful to compare briefly the teaching method proposed here with that used in the Kenya Functional Literacy Programme. The methods start off in the same way, by introducing generative words which are then broken down into component syllables and reassembled into new derivative words.

Word Level: | Generative | (memorisation) | Derived |
              | Words | | Words |

                    │
                   (1)   (2)   (5)
               (analysis)   (synthesis)   (synthesis)
                    │
                    ▼
Syllable Level: | Component | ____(4)____   ▶ | Derived |
                  | Syllables | (analysis & | Syllables |
                                  synthesis)

                    │
                   (3)   (7)
               (analysis)   (synthesis)
                                        (6)
                                    (synthesis)
                    │
                    ▼
Sound Level: | Component |
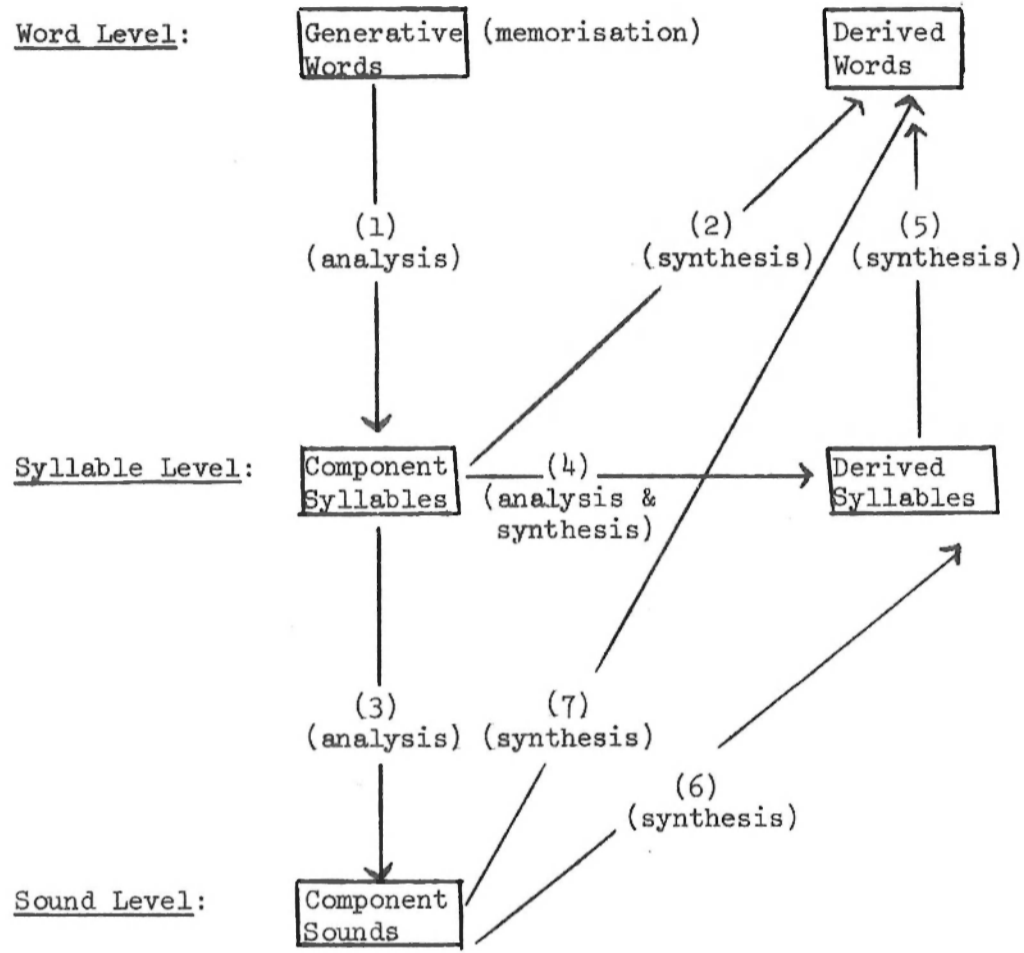 | Sounds |

Figure 1. Suggested learning sequence.

But this is about as far as the similarities go. Perhaps the most conspicuous difference is that in the Functional Literacy Programme at present there is no attempt to phase out the generative words and move towards phonetic reading. New words are introduced throughout the 96 lessons contained in the four main readers for the programme, at the rate of about four words per lesson. These new words are printed at the beginning of each lesson, and are taught to the students before they begin reading the text which contains them. Most of the classes we visited were working on the third reader, and were in their second year of instruction. In every class, without exception, the teacher introduced the new words as if the students were complete beginners: he first read the words to them, and then gave them memorisation drill until they could repeat the words without hesitation. We never heard a teacher suggest that the students might attempt to read the words for themselves, even when the word was extremely familiar in spoken Swahili, and contained no new syllables or sounds (as, for example, sawa in Book Three, Lesson Nine, or kulala in Book Three, Lesson Twelve).

The order in which new words are introduced seems to bear little relation to their phonetic or linguistic difficulty. Many of the words which appear in the first few lessons have complex syllabic constructions (e.g. m - cha - nga, u - do - ngo, kwa - mba); others in addition are almost unknown in everyday Swahili (cha - nga - ra - we, dha - i - fu). By contrast, a number of the words introduced in the last few lessons of the final book are both commonly used and phonetically simple (te - na, ka - ri - bu, sa - na, cha - ku - la, m - bo - ga). There is no reason why words such as these, and many others like them, should need special introduction so late in the course; by this stage the learners should all have long since mastered the skills needed to read them without help.

In general, the requirements of the adult education component of the Programme seem to have determined the order in which the generative words are introduced, and how often they are repeated. Considerations arising from the other objectives of the programme - acquiring literacy and learning the Swahili language - have been almost entirely subordinated. The topic for the first reader is different types of soil. Thus among the first generative words the learner must memorise are towe (clay), matope (mud), changarawe (grit), and mchanga (sand), regardless of their phonetic characteristics or how widely they are known.

By the same token, little consideration seems to have been given to systematically repeating newly-introduced syllables in different contexts, so that the learners have a chance to consolidate their new knowledge before moving on to fresh material. Nor is any attempt made to introduce the learners to syllable families.

A final major difference is that in the Kenya Functional Literacy Programme generative words are broken down to the syllabic level only. Pupils are not systematically taught the way single sounds are represented. The underlying orderliness and rationality of the way Swahili words are built up from the simplest units thus remains inaccessible. In the classes where we were able to make a check, we found that although the students knew many syllables, they were baffled when we asked them to break them into separate sounds. A number knew the alphabetical names of the letters, but very few their sound-values. Partly for this reason and partly because of the emphasis on memorising generative words, pupils tended to have poor word-attack skills. Their characteristic expectation when a new word came up seemed to be that the teacher would tell them how to read it.

Early in this section we said that we have had only a limited opportunity for testing in the classroom our suggestions as to how Swahili literacy might be taught. We were, however, able to try them out with two classes, on occasions when the regular teachers happened to be absent on the day of our visit. In both classes the pupils were unsure as to how they should tackle the reading of new words. But they understood the principle of syllable families very quickly, and within a short time had learned the sound-values of a number of consonants. By the end of the lesson many students were able to synthesise whole words and even sentences without help. The rapidity of their progress was, of course, largely due to the amount of practice they had already had in recognising whole words and syllables in the two readers they had completed, but there seems little doubt that an early introduction of phonetic reading would greatly speed up the acquisition of literacy.
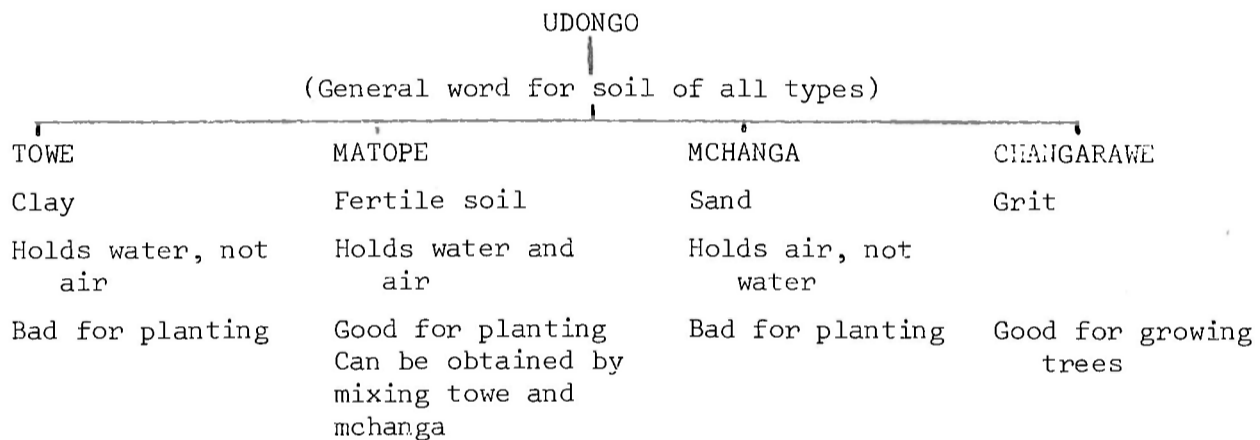
COURSE CONTENT

In a short account it is impossible to consider the content of all the readers used in the Kenya Functional Literacy Programme in any detail. We shall therefore concentrate our attention mainly on the first introductory reader, called Aina za Udongo (Types of Soil) and within that reader, on the first sequence of lessons.

The first sequence, which contains twelve lessons, introduces the learners to a classification of soil types. The text repeatedly stresses the importance of understanding the characteristics of different soils, and at one point comes close to implying that such knowledge, by itself, is enough to make someone a good farmer:

Ikiwa unajua namna za udongo
    utalima vizuri.
	If you know the characteristics of soils
	    you will farm (cultivate) well.

Kulima vizuri ni kujua
    namna ya udongo.
	To farm well is to know
	    the character of the soil.
	           (Page 12)

The classification which is presented to the learners can be represented schematically in the following way:

UDONGO

(General word for soil of all types)

TOWE	MATOPE	MCHANGA	CHANGARAWE
Clay	Fertile soil	Sand	Grit
Holds water, not air	Holds water and air	Holds air, not water	
Bad for planting	Good for planting Can be obtained by mixing towe and mchanga	Bad for planting	Good for growing trees

In the functional literacy scheme, _udongo_ is the general word for soil. It can be of four main types: towe, matope, mchanga and changarawe. _Towe_ is clay; it holds water but not air. _Mchanga_ is sand; it holds air but not water. Plants need both air and water; therefore both towe and mchanga are bad for growing crops in. But the farmer can mix towe and mchanga, and get _matope_, which holds both air and water, and is thus good for growing crops. Furthermore, matope is fertile:

Matope ni udongo mnono
    na wa rutuba
	Matope is rich soil,
	    and it is fertile.
	         (p 18)

Matope huweka maji
    na hewa.
	Matope holds water and
	    air. (p 21)

The fourth type of soil is _changarawe_, or grit. It is good for growing large trees:

Mimea mkubwa hupenda changarawe
    na mawe.
	Large trees like changarawe
	    and stones.
	        (p 21)

This 'cognitive map' of the different types of soil and their
characteristics is clear and straightforward. But it has a major defect:
it is not consistent with the map already in use among Kenya farmers.

In two widely separate areas (Vihiga and Tetu), we were able
to talk with several farmers not attending functional literacy classes.
One of the topics we discussed was how they would describe different types
of soil in Swahili. Their replies were for the most part unambiguous and
consistent. Schematically, they can be represented as follows:

MATOPE	UDONGO	MCHANGA
Mud: soil saturated with water	Cultivated soil prepared for planting	Uncultivated soil requires hoeing
Used for building houses	Loose, moist, fertile	Often covered with weeds and bushes
Found on roads after rain		
Bad for planting	Good for planting	Bad for planting

There seems to be no widely-accepted Swahili word in up-country
areas for soil in general, although some farmers suggested mchanga or ardhi.
Towe is not known at all, and changarawe to only a few. But matope, udongo
and mchanga are understood by nearly everybody. Mchanga is used with a much
wider meaning than it is in the functional literacy course. It is understood
as referring to uncultivated soils of all kinds; heavy, clay soils as well
as light, sandy soils. Mchanga tends to be regarded as lacking in fertility,
because it has been left uncultivated and is often covered by weeds or bushes.

Udongo is soil which has either been just prepared for planting,
or which has crops growing in it. The word has strong connotations of
friability, dampness and fertility. Hence udongo and mchanga are contrasted
in meaning; they are distinctive and different types of soil. Mchanga is
certainly not regarded as a variety of udongo, as it is in the functional
literacy text.

Matope has an equally definite meaning. It is mud; either the
type used for daubing on the walls of houses, or the type which bogs down
cars on roads after heavy rain. Asked whether matope was good for planting
seeds in, all our informants responded with a categorical 'no'.

Hence the classification of soils offered by the first functional
literacy reader is at variance with the classification used by Kenya farmers
in at least two respects. The discrepancy in the meanings given to the word

mchanga is probably of only minor importance. All our informants agreed
that sand was a type of mchanga; where they differed from the writers of the
literacy text (and with the compilers of the standard Swahili dictionary) was
in including other types of soil within this same 'concept boundary'. The
discrepancy was thus mainly in the level of generality.

But with matope the case is different, because the two meanings
are directly contradictory to each other. The functional literacy text
describes matope as fertile, friable soil, able to hold both air and water
and suitable for planting seeds. But for most farmers, matope has virtually
the opposite characteristics: it is not friable, it does not hold air, it is
not especially fertile and it is certainly not suitable for planting seeds.
Farmers use udongo to refer to soil of the type called matope in the literacy
readers.

A major purpose of any programme of education is to provide the
learners with new and useful categories with which to order the world around
them. But no learner ever comes to the classroom without an extensive series
of existing categories, based on his out-of-school experience. The older
the learner, the more comprehensive and more firmly entrenched his categorisation
system is likely to be. Kenya farmers have been winning a living from
the soil for generations, often under very difficult conditions. If they had
not developed a working knowledge of the characteristics and potential of
the main soil types, they would never have survived.

We investigated the effects of the 'dissonance' between the two
soil classification systems during our evaluation trips. On every farm we
visited we picked up a handful of prepared soil and asked the farmer what
word he would use to describe it. If the farmer was not a functional
literacy student his answer usually came promptly and confidently: "udongo".
But literacy students were generally not so sure. Some had succeeded in
mastering 'teacher's Swahili' (as one of them called it), and knew that
despite what they might have thought previously, and despite what they might
still hear other people saying, prepared soil was really matope. But for
others, the two sets of contradictory signals had apparently cancelled each
other out. They would look at the soil for a few seconds, and then say "I don't
know". One farmer perhaps remembered that he had been taught a different word
in his literacy class, but had now forgotten what it was. After a pause he
said in an apologetic voice "udongo tu" (just udongo).

Another example of dissonance between the world of the literacy classroom and the world the recruits live in may be given from Lesson Seven:

Lesson Seven

1. Towe huweka maji, haiweki hewa.   Towe holds water, but not air.
2. Mchanga huweka hewa, haiweki maji.   Mchanga holds air, but not water.
3. Maji na hewa ni vitu vizuri.   Water and air are good things.
4. Weka maji vizuri.   Keep water well.

Weka is one of the commonest verbs in Swahili, and is known to almost everyone who has acquired even a smattering of the language. Its basic meaning is 'to put'. In coastal Swahili, however, it has a wide range of other meanings, including to preserve, to look after, to delay and to hold. These alternative meanings are rarely encountered in upcountry spoken Swahili. Weka appears for the first time in Lesson Seven, but it is not used with its commonly understood meaning. Instead, it takes two separate alternative meanings. In lines 1 and 2 it means hold, and in line 4 it means keep or look after.

We asked several farmers who were literate in Swahili but who had not attended functional literacy classes to read Lesson Seven to us and explain its meaning. They were all clearly disconcerted by finding weka, a word they were all familiar with, in a context where its known meaning did not make sense. One farmer suggested (when we had explained the meaning of towe to him) that "towe huweka maji" might mean "towe puts water (into other, dry, soils)"; while another said, very tentatively, that "weka maji vizuri" might mean "put water (into a container) carefully (so that it does not spill)".

It should be stressed that we are not suggesting that a literacy course should teach only the commonest meanings of Swahili words, and should ignore the more subtle and less frequently heard usages. The issue is one of timing. After the learners had completed two or three readers, and had met weka in its common meaning several times, it would be quite appropriate to introduce the alternative meanings. If this were done, the new recruits' first experience of the word in the literacy programme would confirm their existing knowledge. Later on, they would find little difficulty in extending their understanding of the word to include the new meanings. In this way the new knowledge would be built on to old knowledge, and there would be no incompatibility between them. But by introducing the alternative meanings first, the programme creates unnecessary dissonance between what the students know from the world outside and what they are taught in the classroom.

It is clear that in devising any programme of adult education, especially one which is concerned with improving the daily lives of the learners, the question of how to articulate the new knowledge with existing knowledge is of central importance. In the examples we have considered so far the difficulties have been due mainly to linguistic factors. For most literacy recruits, Swahili is only a second language; and, moreover, the version they speak is a simplified and somewhat modified form of standard coastal Swahili.

But there are similar problems which spring from the content of the lessons rather than from linguistic factors, and which would thus have occurred even if the literacy programme had been conducted in vernacular languages. Consider the information given in Lesson Eight:

Lesson Eight

1.	Fanya udongo kuwa mzuri.	Make the soil good.
2.	Changanya towe na mchanga.	Mix towe and mchanga.
3.	Udongo wa towe na mchanga	Soil of towe and mchanga
4.	Huweka maji na hewa.	Holds water and air.

Lesson Eight carries the central message of the whole introductory sequence of twelve lessons. The seven lessons which precede it are concerned mainly with describing the different types of soil, and the four lessons which follow it mainly with repetition and amplification. To recapitulate the message briefly: there are four main types of soil, each with different characteristics. Matope is good for planting seeds, because it holds both air and water. Farmers should obtain matope by mixing towe (clay) and mchanga (sand).

We discussed this lesson informally with two small groups of functional literacy teachers. None of them could recall it having given any special difficulties. The Swahili was a good deal simpler than in some previous lessons, and the learners had readily understood the agricultural advice it contained. The lesson, in short, was a good one. But when we asked them whether they or their students had acted on the advice they all immediately saw where the lesson was deficient. No one had ever attempted to improve the soil in the class plot or in his own farm by mixing clay and sand. Indeed, no one could remember ever seeing this done by any farmer.

It is, of course, quite likely that many Kenya smallholdings could be improved by mixing sand with the heavier soils and clay with the lighter soils. But the costs would be high, even assuming that soils with the needed complementary characteristics could be found on the same holding. It is a great deal easier to choose the types of crop to grow according to the soil characteristics than it is to try to change the soil characteristics to suit the crops; and this, of course, is what most Kenya farmers have always done. In Central Province, for example, the traditional practice has always been to use the saturated clay soils along the banks of streams for planting arrow-root, because this crop thrives under such conditions. The land a little further away from the water, where the soil is still heavy but less saturated, was kept for crops such as sweet potatoes and sugar cane; while on the lighter well drained soils of the hill slopes the farmers grew - and still grow - their maize and beans.

We do not mean to imply, of course, that all traditional knowledge should be treated as sacrosanct. The practice of burning long grass before the rains, for instance, is destructive of the long-term fertility of the soil, and the functional literacy text should say so. But where the advice to be given is at variance with existing practice, careful consideration needs to be given to whether the recommended practices are in fact an improvement. There may well be constraints operating which make the existing practices much more rational than they seem at first sight.

The most important point to notice from our discussion of Lesson Eight is the difficulty which our informants had in recognising that the information it transmitted was deficient. Information which comes in a well-produced book from an authoritative source carries a powerful mystique, especially to poorly educated readers. They may well be aware that the information is for some reason irrelevant to their own lives, but they will not reject it as being wrong. Just as there is 'teacher's Swahili', which is better than the Swahili of ordinary people, so also there is 'teacher's knowledge', which is superior to ordinary knowledge. When asked about Lesson Eight, everyone agreed that it contained 'good' advice. Perhaps they felt that there must be some people, living somewhere else, who act on it; maybe because they are richer or more sophisticated. Many of the literacy students we met on our visits could tell us that to get good soil, you should mix sand and clay. But not one of them had done so on his own farm.

The problem of ensuring that the new information and advice to which learners are exposed is both accurate and relevant is perhaps the most difficult that a functional literacy programme must cope with. If it is not tackled successfully very little of what is taught will be followed by permanent behaviour changes. It is not enough that the literacy readers be technically accurate in content. They must also recognise the effects of the constraints under which Kenya smallholders work - constraints such as shortage of capital, shortage of land and inadequate rainfall. The readers contain a great deal of information about the benefits to be gained by using artificial fertilisers, but nothing at all about what they cost to buy. Similarly the students are told that they should dig bench terraces to protect their land from erosion, but they are not told what they can do to improve their chances of getting a crop if they live in an area which is prone to drought.

The most striking examples of failure to take account of the circumstances in which low-income families in Kenya live are to be seen, perhaps, in Book Four. The title of the book is Kukuza Mboga (Growing Vegetables), and it discusses carrots, tomatoes, English potatoes, and onions.[4] The book is enthusiastic as to the prospects for increasing cash incomes through growing and selling these crops. Here, for example, is the advice which it gives about marketing carrots:

Watu hupenda karati.	People like carrots.
Watu wote hawawezi kukuza karati.	Not everyone is able to grow carrots.
Lakini watu wote hula karati.	But everyone eats carrots.
Kwa hivyo wao hununua karati sokoni.	For this reason they buy carrots at the markets.
Ukiuza karati unapata pesa.	If you sell carrots you will get money.
Mnunuzi huvutiwa na karati zako zikiwa nzuri.	The customer will be attracted to your carrots if they are good. (Book Four, page 11)

With minor variations, the same advice is given for each of the three other crops. For onions, it reads as follows:

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4.   Book Four is intended for use only in areas where the soil and climate are suited to the growing of these vegetables. Our comments are concerned only with the advice given about marketing.

Kuna nafasi nzuri ya kuuza vitunguu sokoni.	There is a good opportunity to sell onions in the market.
Karibu kila mtu hula vitunguu.	Nearly everyone eats onions.
Ni mboga inayopendwa sana.	It is a very popular vegetable.
Lakini si kila mtu hukuza vitunguu.	But not everyone grows onions.
Kwa hivyo, wewe ukikuza, utaviuza na kupata faida.	For this reason, if you grow onions you will sell them and get a profit.
Ukikuza vitunguu vikubwa, na vizuri, utaviuza bila shida.	If you grow large onions, of good quality, you will sell them without difficulty.
Pia utapata bei nzuri.	Also you will get a good price.
Kuza vitunguu na kuongeza mapato yako.	Grow onions and increase your earnings.
Furahia maisha na mapato zaidi.	Be happy in life with bigger earnings.

(Book Four, page 52)

The assumption seems to be that there is a major irrationality in the production and marketing of these crops which is waiting to be exploited by functional literacy participants. The crops are eaten widely, even universally, but for some unexplained reason many people do not grow them and therefore must buy them. The facts of course are different. It is quite untrue to say that "everyone eats carrots" or that onions are "a very popular vegetable". The great majority of low-income rural families in Kenya eat none of the vegetables discussed in Book Four, with the partial exception, in some areas, of English potatoes. But even if they did, most families would grow the vegetables in their own gardens rather than buy them at the markets. Nearly all the customers for carrots, onions and tomatoes are in the higher income brackets, and most of them live in the cities and big towns. Even at quite large market centres such as Kakamega the turnover in these crops is very restricted. Unless they live near a big town, or can sell their produce to a vegetable processing factory or a marketing cooperative, most literacy participants could probably improve their income-earning prospects more by increasing their output of the food crops which are in strong local demand. Almost everywhere in Kenya there is a period, just before the new harvest, when prices for staple foodstuffs reach very high levels in local markets, and farmers who have managed to retain a surplus reap substantial profits.

It would be quite legitimate, of course, for the booklets to suggest that participants should grow the new vegetables on a trial basis, for their own consumption and also to test the marketing possibilities. But to assert, without any qualification, that participants can increase their

incomes substantially by growing these crops for sale is counter-productive
and disfunctional.

In choosing lessons to discuss in this section, we have concen-
trated on those which best illustrate general themes. We have discussed, for
example, some of the difficulties which arise from the fact that most Kenyans
speak only a simplified and somewhat modified version of standard Swahili.
Similarly we have discussed the problems of ensuring that the information
given during the course supplements, rather than contradicts, the useful
knowledge which participants already have. But in addition to these major
issues, there are also numerous minor points of detail, often specific to one
lesson, in which revision is needed. To illustrate these, we give a line-by-
line critique of Lesson Nine in Book One. The text reads as follows:

1.	Udongo ule ni mzuri.	That soil is good.
2.	Unaweka maji na hewa.	It holds water and air.
3.	Matope ni namna nzuri ya udongo.	Matope is a good kind of soil.
4.	Matope ni namna mzuri ya udongo.	Matope is a good kind of soil.
5.	Ule ni udongo wa matope.	That soil is matope.
6.	Huweka maji na hewa.	It holds water and air.
7.	Udongo ule hauweki maji.	That soil does not hold water.
8.	Towe na mchanga huweka maji na hewa.	Towe and mchanga hold water and air.
		(Book One, page 17)

Lines 1 and 2. The text reads "That soil is good. It holds water
and air." - Presumably the teacher should have an appropriate sample of soil
in the classroom while teaching this lesson. But the three teachers whom we
asked said that they had used the illustrations in the text, on pages 8 and 14.
Neither of these illustrations, especially the one on page 8, is at all clear.
When asked to identify the pictures of the four soil types on page 8, the
answers of participants were almost random - although there was a tendency to
identify the picture labelled changarawe as matope, and the picture labelled
towe as mchanga. Clear photographs would be a marked improvement.

Line 2. The verb weka is more commonly used to mean put than to
mean hold, as we have seen. In this context, it is especially ambiguous.
Unaweka is obviously meant to mean it holds; the pronoun prefix u referring to
udongo in the previous line. But the same prefix also denotes the second
person singular; and this usage is far more widely known. Thus many new
readers are likely to interpret "unaweka maji na hewa" as meaning "you put
water and air". The ambiguity over the pronoun could be removed by repeating
udongo ule at the beginning of line 2.

Line 3. Matope is not generally regarded as a good type of soil to plant seeds, as we have discussed.

Line 4. Repeats line 3, with one slight variation (mzuri instead of nzuri). Line 3 is grammatically correct.

Lines 3 and 4. The best translation of namna in these lines is perhaps kind (of soil). But in previous lessons the word aina has been used to refer to the four named types of soil, and namna to refer to soil characteristics (e.g. Lesson Six: Udongo tofauti una namna tofauti: different soils have different characteristics). Learners have also been introduced to hali in Lesson Five (unajua hali ya udongo: you know the condition of the soil); and in Lesson Eleven, asili is used (unajua asili ya undongo: you know the nature of the soil). The distinctions between asili, hali, namna and aina are extremely subtle, and quite beyond the capacity of beginners, especially when the contexts in which they are used give virtually no help.

Line 6. The use of the present habitual tense hu is confusing to beginners (huweka). They may easily mix it up with the present negative tense (huweki: you do not put, or you do not hold). This is especially important in this context, where the distinction is being drawn between soils which do hold water (huweka) and soils which do not hold water (hauweki).

Line 8. As it stands, the information given in this line seems directly to contradict what the learners were told in Lesson Seven (towe holds water but not air; mchanga holds air but not water). Several literacy teachers whom we consulted were unable to resolve the puzzle; one of them suggested that the line was not meant to convey agricultural information, but simply to give practise in reading Swahili! Clearly what is meant is that towe and mchanga, when mixed together, hold both air and water.

One final point must be made. It may have been noticed that in discussing teaching materials and methods in this and the previous section we have referred only sporadically to the progress of the programme partici- pants in acquiring the new literacy, language and farming skills. We have not presented systematic data showing how well they have learned how to read and write, how much Swahili they have learned or how much they have modified their farming practices in response to the information and advice given in the booklets.

One reason for this is that gathering reliable data of this kind was beyond our resources. The task of carrying out a survey to measure the impact of an educational programme bristles with methodological difficulties. To mention only one: there would have been enormous problems in identifying an adequately matched control group, especially given that most of the literacy participants were self-selected. The only way in which really valid information could have been obtained would have been to have conducted a longitudinal follow-up of the participants from the time they were first recruited.

But there is a more important reason. In carrying out an evaluation of a project such as the Kenya Functional Literacy Programme, there are two main sets of questions to be asked. The first concerns the internal workings of the programme: how effective are the teaching methods used, is the course content appropriate, do the learners have an adequate grasp of the language in which they are being taught, and so on. The second group of questions concerns the 'output' effects of the programme: have its graduates learned to read and write; do they speak better Swahili; are they better farmers. Logically, the first group of questions precedes the second. If the teaching methods and materials are deficient, the programme is hardly likely to have a major impact on the knowledge, skills and behaviour of the participants. It was not necessary for us to carry out a full-scale survey to find out that participants were not carrying out the advice given in the booklets about mixing sand and clay, nor to discover the reasons why. Similarly, detailed investigation was not needed to find out that new recruits found difficulty with little known and phonetically complex words such as changarawe or dhaifu, and that they tended to forget them as soon as the course passed on to other topics.

But on the other hand, even if the preparation of materials and the training of teachers has been impeccable, the programme may still fail. There may well be constraints external to the programme itself which limit its effectiveness. A systematic follow-up of literacy recruits would be invaluable in helping to identify these. But the appropriate time to carry out such a survey will be when the internal problems of the project, which we have discussed in this report, have been rectified.

The main points we have made can be summarised very briefly:

1. The teaching method being used places too much emphasis on the whole-word approach. Whole words are broken into syllables, but these syllables are not broken further into separate sounds. Even at the end of the

fourth reader, the new words from each lesson are singled out and printed
at the top of the page, and the learners are given memorisation drill in
reading them.   But by the end of the second reader at the latest, learners
should have mastered all the skills they need to read any Swahili word they
encounter without help from the teacher, and without recourse to memorisation.
Swahili is fully phonetic; the 30 sounds used in the language are always
represented by the same symbols. Once these symbols have been mastered,
the learner's main <u>literacy</u> problem is solved, even if his knowledge of the
Swahili <u>language</u> is still far from complete. The readers and the teaching
methods should be revised to take full advantage of the phonetic character of
Swahili.

     2. The order in which words are introduced takes no account of
their phonetic characterisitics. The two words introduced in the first lesson,
for example, contain complex as well as simple syllables and sounds.
Similarly no attempt is made to ensure that the syllables and sounds are
introduced systematically, and with adequate repetition.

     3. In the same way little account has been taken of the frequency
with which Swahili words are used in rural districts. Difficult, little
known words are used in the introductory lessons, while simple, universally
known words are introduced (with memorisation drill) towards the end of the
course.

     4. Familiar words which have more than one meaning are sometimes
introduced with an uncommon, little known meaning first. This tends to
create an unnecessary gap between classroom knowledge and everyday knowledge.

     5. The advice given in the readers is quite often at variance
with common practice on Kenya farms. When this happens, careful consideration
needs to be given to whether the recommended practices are in fact an
improvement. There may well be constraints operating which make the existing
practices much more rational than they seem at first sight. Two examples are
given from the text of the literacy booklets of advice which is probably
counterproductive for most Kenya farmers.

     In short, the booklets need to be rewritten and the teaching
methods revised. Furthermore, the booklets should be written <u>in the</u>
<u>language in which they are to be used</u>: they should not be translated from
English. The writing **should** be the work of a team, which should consist of,
at minimum, a literacy expert, a Swahili specialist and people with extensive
fieldwork experience in agricultural education and domestic science. The

first two booklets, which would be concerned mainly with teaching reading and writing, could probably be written for Kenya as a whole; but for the subsequent booklets, in which the adult education component of the programme would become dominant, separate editions suited to local conditions of climate and soil, and also to local economic factors, would need to be prepared. Local field staff should be fully involved in writing these editions.

It is inevitable that a report such as this should give more attention to the weaknesses and failures of the Functional Literacy Programme than to its successes. We should therefore conclude this section by stressing that everywhere we went on our field trips we were most favourably impressed by the enthusiasm of the professional and administrative staff, the teachers and, above all, the learners. With these reserves of commitment and energy to draw on, there seems no reason why a revised programme, with changed teaching materials and methods, should not be a major success.

PROJECT ADMINISTRATION

      The first SRDP area in which the Functional Literacy Programme was initiated was Migori, where it has now been in existence for three years. The programmes in Kwale and Mbere were started a month or so after the one in Migori. The Kakamega, Tetu and Kapenguria programmes have been in existence for just over a year. At first 15 centres were started in each area with, in principle, a maximum of 25 - 30 students. The programme staff did not have enough time to site the centres carefully. They failed to consider thoroughly the relevant factors such as population density and other local peculiarities which might affect the performance of the project. Some centres closed shortly after they had opened and were replaced with new ones elsewhere. Of late the policy has been that if average attendance falls below fifteen the centre is closed down and not replaced. In Mbere, for example, about five centres have closed. The most important justification for this measure was economic: it was argued the costs of maintaining a class with low average attendance are too high. In areas such as Tetu where there are many educated adults, this is probably justified, but in less developed areas such as Mbere the contribution of even a few successful literacy graduates as role models should not be overlooked. One of the students in a centre which closed in Mbere was a toothless old woman who had attained the status of a local legend for her competence in literacy.

      Once a class has started, the teachers are not supposed to enroll new students. This principle has been fully observed in some SRDP areas, but not in others. It seems unrealistic to be rigid about this requirement; adult education inevitably has a floating clientele and it is surely better for the programme to adapt itself to this fact. But the classes which waived this requirement and continued to take in new illiterate adults to replace dropouts often encountered problems with streaming. We found in several classes that the adults were divided into three streams, informally labelled A, B and C. The A stream usually comprised the most advanced participants and the C stream the most recent entrants. There were cases, however, of relatively new recruits who had demonstrated superior ability in reading and writing and who for this reason were included in the A stream. Conversely some of the oldest members could not read and write and remained in the C stream.

      The teachers devise their own solutions to this problem. What they do normally is to focus the lesson on the A stream. After covering the reading with these students, the teachers assign them writing and then turn their attention to the others.

The classes are supposed to meet six times a week in two-hour
sessions. This regulation has been very flexibly applied. The decision
as to what time of day a class should meet, and the length of the lessons,
is left to the discretion of the teacher. In spite of this, the problem of
attendance has continued to be quite serious, more so in some areas than in
others. There are certain periods when absenteeism is so great that the
centre should be closed. These periods include market days, and the busy
times during sowing and harvesting. But we do not have enough data to specify
completely the causes of irregular attendance. More information is need on
this point.

All areas have experienced the phenomenon of 'dropping out'.
This must always be expected to some degree in an adult education programme –
some people are always likely to migrate, to experience family problems which
prevent them from attending classes, etc. But dropping out cannot be
explained entirely by these factors. Some indication of the extent of
dropping out is given by the figures below:

1) Kwale - In January 1973 there was a total of 401 students,
of whom 194 were men and 207 women. At the end of 1974 there was
a total of 280 students, of whom 143 were men and 137 women.

2) Mbere - In December 1972 there was a total of 361 students,
of whom 330 were women and 31 men. At the end of 1974 there were
101 students, of whom 16 were men and 85 women.

3) Migori - In early 1973 there were 349 students. By late
1974 there were 280.

4) Vihiga - At the end of 1973, there were 387 students. By
late 1974 there were 352.

5) Tetu - At the end of 1973, there were 450 students. By
late 1974 there were 308.

6) Kapenguria - In late 1973 there were 354 students. By late
1974 there were 334.

These figures should be interpreted cautiously. Reference will
be made to the element of fabrication which can enter into reporting by the
teachers. Secondly, registers seem to be kept irregularly in a number of
centres. Thirdly, not all areas have followed the policy of a once-and-for-all
recruitment system. Also, these total figures are affected by the policy of
closing down centres when attendance drops below fifteen. Despite the effects

that continuing entry and closure of centres have on the attrition rate,
it is obvious that dropping out has occurred with considerable frequency,
especially in Mbere, Tetu and Kwale. In Tetu there is one centre where
the total enrollment dropped from 80 to 60 in two months, to 50 in the
following month and to only 30 students at the end of the fifth month. At
the time of the interview, which was about eighteen months after the opening
of the centre, there were only 25 left, most of whom were young mothers
between the ages of 20 - 25 years.

Most of the reasons given by the project staff and by the learners
themselves for dropping out involve factors which are external to the Programme.
These factors include pregnancy, migration and death. But it would appear that
certain factors within the Programme itself are also involved. In the Mbere
case, the high dropout rate is connected with:

1. The use of Swahili which is not understood by many people in
the area;

2. The high rate of turnover of teachers. Of the original fifteen,
only four now remain. This seems to be associated with the level of
honoraria for these teachers. One of the teachers who deserted the
project joined a teacher training college, and another became a
subchief. A third took a job as an office messenger with the Ministry
of Health. The new teachers lack training and are only briefed on what
to do by the Adult Education Supervisor in his office. He is expected
to give them on-the-job training during visits;

3. The absence of the Adult Education Supervisor from his post
for a large part of 1973 while he attended a course in Europe. The
other Divisional Social Services staff do not seem to have been able to
fill the gap adequately. For instance, they failed to keep records on
attendance, dropping out and the progress of students in reading and
writing. Supplies of the second reader were not obtained when the first
reader was completed, and instead a supplementary book for Unit One was
used as a primer. It was only when the students complained of the rep-
etition that steps were taken to obtain Book Two; and

4. The inappropriateness of much of the material to Mbere
conditions.

Conversely the low level of dropouts in Kapenguria may be explained
by:

1. The generally high level of acceptance of Swahili (here it
should be noted that most of the students are Baluhya, not Pokot);

2.   The low turnover of teachers - of the original fifteen, only two have left;

3.   A flexible recruitment system; and

4.   A policy of allowing non-adults to join the classes.

As far as staffing is concerned, each area has up to fifteen teachers (usually with seven years of primary education) who earn shs.150/- per month. Their work is supervised by Adult Education Supervisors (one per SRDP area). These are on a salary scale which is comparable to that of P1 teachers: 860/- to 1,625/- per month. Other staff in the Department of Social Services are also associated with the Programme - Assistant Community Development Officers and Community Development Officers (where they exist) are supposed to keep in close contact with the classes. This has been of considerable importance in areas where the Adult Education Supervisors have been absent for long periods. At headquarters there is a staff of three adult education specialists, one of whom is a UNESCO adviser. They are concerned with the general administration of the Programme, its internal evaluation and the preparation of teaching materials.

Costs

Costs of the Programme for the years 1972-73 and 1973-4 are given in the following table.

Table 1.   Costs of the Functional Literacy Programme.

1972-73

Item	Cost
Instructors' honoraria	shs 50,000
Equipment (non recurring)	40,000
Material production	7,000
Total	97,000

1973-74

Item	Cost
Instructors' honoraria	shs 162,000
Equipment (non recurring)	84,000
Materials production	60,000
Research and evaluation	18,000
Training	18,000
Total	342,000

For 1974-75 the allocation was 200,000/-; how this amount was to be spent had not been finalised at the time this study was made.

All these figures exclude the following emoluments: Adult Education Supervisors, the Kenyan headquarters staff and the UNESCO adviser. UNESCO's only financial commitment so far is to cover the salary of the adviser. There is a possibility of their providing some printing machinery later.

The problem of adequately monitoring the experiment has absorbed a great deal of the time of the headquarters staff in Nairobi. A number of different report and evaluation forms have been designed with this in view. The teachers and the Adult Education Supervisors have thus been able to regularly convey their views as to the progress being made. However, a fully satisfactory reporting system has not yet been evolved. Many teachers, for instance, are unclear as to the kind of information which is required of them. This was noticeable in Kapenguria where it was obvious that none of the teachers had any idea of what they should write under the headings of 'club activities' and 'adult motivation'. There have also been problems of fabrication. In Migori this went to the extent of producing attendance figures which were over 100 per cent! The difficulty of getting reliable information is compounded by the fact that the Adult Education Supervisors have very little mobility. None of them find it possible to visit all fifteen centres in their areas the requisite two times a month. Since good monitoring is vital to experimentation, it might have been better to begin with fewer centres per SRDP area - always, of course, with a view to increasing their number later.

In late 1974, each SRDP area was asked to carry out its own evaluation. Teams were to be established in each area. These were to consist of officers representing the various ministries - health, agriculture, provincial administration, etc. - which have been involved in the programme in one way or another, in addition to staff of the Department of Social Services (D.S.S.). This exercise was more successful in some areas than in others. It was sometimes difficult to get a genuinely inter-departmental team together (for example, in Mbere no officer outside D.S.S. participated). Also, in many areas the evaluators, for reasons which are not clear, seem not to have understood the purpose of the exercise and produced information which is too vague to be of much use. However, where evaluation reports make interesting points (as the Kapenguria and Mbere reports do, for example), these have been taken into account in the preparation of this chapter.

The notion of functionality required not only the preparation of teaching materials suited to the students' everyday experience, but also the involvement of local extension workers in every aspect of the Programme. These expectations, however, do not seem to have been realised to any great extent. The preparation of materials is done by the Nairobi officers with little involvement of officers or teachers in the SRDP areas. The books which have been prepared are often inappropriate and sometimes technically unsound, as has already been pointed out.

At first books were designed to serve all areas. Obviously this creates problems since the kind of agriculture found in Kwale is not the same as that of Tetu. However, the attempt is now being made to produce books which are better geared to local needs. For instance, manuscripts have now been completed on beekeeping for Mbere and Kapenguria; poultry for Migori, Kwale and Mbere; tobacco for Mbere, Kapenguria and Migori; hybrid maize for Tetu; and Katumani maize and cotton for Mbere. In producing this material close collaboration with the Ministry of Agriculture is essential.

Integration into the Programme of extension workers from other ministries has also been something of a problem. An important element to be integrated is agriculture. To link functional literacy to agriculture, demonstration plots were started and every centre should have had such a plot. Although the teacher is responsible for the general management of these plots, he obviously should involve the local agricultural extension staff in this work. The agricultural staff should also lecture to the class from time to time. The experience in Tetu seems to be satisfactory from this point of view, but Mbere has been almost a complete failure. Even in Tetu, however, teachers complained of the great difficulty involved in arranging for extension workers from various ministries to meet their classes, either for demonstrations or to give introductory lectures on key themes introduced in the literacy texts.

The Migori case falls somewhere in between these two. About half of the plots seem to be going concerns; the most successful tend to be at the centres where the Agricultural Assistants or Junior Agricultural Assistants take an active interest. In Kapenguria there is a danger that Ministry of Agriculture staff will fail to involve themselves sufficiently.

The Kwale and Vihiga cases seem similar to Migori. The contribution made by the Ministry of Agriculture may be described as 'patchy', but that of other agencies such as the Ministry of Health, Family Planning Association, etc. is even more marginal. This is primarily explained by the more difficult staff position of these agencies. Other suggested reasons are

that the classes normally start in the afternoon when extension workers are finishing their day's work, and that these employees of other extension services feel they already have enough work to do without getting involved in functional literacy. However, it would seem possible for them to be considerably more involved than they are at the moment. For family planning and home economics workers the functional literacy classes would seem to be ideal target groups composed as they usually are primarily of women. In some areas the Functional Literacy Programme has duplicated the services of the Home Economist employed by the Ministry of Agriculture by adding a Home Science Demonstrator, who is expected to teach the women tasks such as needlework and cookery. When literacy teachers have contacted the Home Economists they have often been told either to make use of their own staff or to advise the women students to join the demonstration groups organised by the Home Economist.

The Programme uses radio broadcasts to broaden its coverage. Topics of general interest, and others considered important to the lives of the rural communities, are selected and prepared by the Programme staff in Nairobi. This information is passed on to the Voice of Kenya and is relayed by radio to the adult students. We are not in a position to say much about this aspect of the Programme because we listened to only one broadcast during our field work. The topic was the value of water and various methods of water conservation. This is indeed an important topic and the rural population should be exposed to it. But it was somewhat discouraging to see how little adults learned on their own from the radio. One obvious problem which reduced the effectiveness of the exercise was the very complicated language used. The writers had failed to take into account the limited Swahili background of rural people. The language used was roughly at the same level of complexity as that used in the V.O.K. news bulletins. Furthermore, the broadcaster read the text very quickly. The background noise from the radio also made it difficult for the adults to follow.

After the broadcast the teacher organised a discussion, but he so monopolised it that it was difficult for the learners to participate. One woman, however, learnt something. She thought that water flows through electricity lines, and thus wondered why anyone could be electrocuted by pouring water on the lines. The teacher did not know a great deal about the subject, but nonetheless succeeded in explaining that electricity is not water even though it is generated from water.

We may now sumarise the points raised in this discussion of the administration of the Functional Literacy Programme:

1. The initial selection of locations for functional literacy centres was often rather hasty, and sometimes failed to take into account whether the surrounding area contained a dense enough population to support a viable class. For this reason a number of the original centres had to be closed and relocated elsewhere.

2. Dropout rates are difficult to estimate with any accuracy, because in many centres new students have been recruited to replace leavers. Nevertheless it is clear that in some areas - especially Mbere and to a lesser extent Tetu and Kwale - losses have been high. Some possible reasons include rapid turnover of teachers; inappropriateness of teaching materials and methods; and the use of Swahili at a level of complexity which the students find difficult to understand.

3. The policy has been to close a centre when the enrollment falls below fifteen. This is probably justified in advanced areas such as Tetu, but in Mbere and other less developed areas there is a strong case to be made for keeping small centres open provided that the participants continue to make good progress. In places where most adults never attended school, even a few successful literacy graduates can make an important contribution as role models.

4. Absenteeism has also been a problem, especially at times of the year when planting and harvesting have to be done. There is a strong case to be made for closing the centres, or at least reducing the hours of attendance, during such busy periods.

5. Local extension workers should be involved much more fully in the operation of the functional literacy centres than they have been in the past. They should participate in the writing of teaching materials suited to local conditions, they should advise as to the management of the demonstration plots attached to the centres, and they should give occasional lectures. It was noticeable that the most successful demonstration plots tended to be at centres where the local agricultural extension worker took an active interest. Because they are composed mainly of women, literacy classes would also seem to be an ideal target group for home economics and family planning workers.

RECOMMENDATIONS FOR TEACHING METHODS AND COURSE CONTENT

1. The teaching method being used at present places too much emphasis on the whole-word approach. Advantage should be taken of the phonetic nature of the Swahili language by introducing students to the sounds of individual vowels and consonants early in the learning sequence, so that after a limited number of lessons they can construct new words on their own and are no longer dependent on learning by rote memorisation.

2. The order in which words are introduced should be planned carefully. Words made up of simple syllables should be introduced before more complex words, and the syllables and sounds should be introduced systematically, and with adequate repetition.

3. Better advantage should be taken of the pupils' previous familiarity with Swahili by introducing simple, commonly used words in the introductory lessons and only later adding difficult, little known words.

4. Words with more than one meaning should first be introduced with their common everyday meaning, and other less widely known meanings introduced later.

5. The reasoning behind common farming practices in Kenya should be carefully investigated, and different practices should only be recommended in the functional literacy readers if it is quite certain that these practises would in fact represent an improvement.

6. Following these recommendations, the booklets for the Functional Literacy Programme should be rewritten and the teaching methods revised. The writing should be done by a team consisting of, at minimum, a literacy expert, a Swahili specialist and people with extensive fieldwork experience in agriculture and domestic science education. The first two booklets should be concerned mainly with teaching reading and writing, and the adult education component should largely be reserved for subsequent booklets. Separate editions of the later booklets would need to be prepared suited to local conditions of climate and soil and local economic factors. Local fieldwork staff should be fully involved in writing these editions.

RECOMMENDATIONS FOR PROGRAMME ADMINISTRATION

1. The location of functional literacy centres needs to be planned carefully taking into account the population level of the surrounding area so that centres do not have to be closed because of an insufficient number of pupils.

2. Dropout rates are difficult to estimate accurately, but in some areas they have been high. Possible reasons for high dropout rates, such as rapid teacher turnover, inappropriate teaching methods and materials, and the use of Swahili too complex for the pupils to understand, need to be investigated and corrected.

3. In less developed areas it may be advisable to keep centres open even when the number of pupils falls below fifteen because a few successful literacy graduates can make an important contribution as role models.

4. Local extension workers should be involved much more fully in the operation of the functional literacy centres, in such activities as writing appropriate teaching materials, supervising the centres' demonstration plots, and occasionally lecturing.