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A Consultancy Study for the Ministry of Education in Ethiopia and for Sida

Mikael Palme
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Authors: Mikael Palme Wiggo Kilborn Christopher Stroud Oleg Popov

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SWEDISH INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
Address: S-105 25 Stockholm, Sweden. Office: Sveavägen 20, Stockholm
Telephone: +46 (0)8-698 50 00. Telefax: +46 (0)8-20 88 64
Telegram: sida stockholm. Telex: 11450 sida sthlm. Postgiro: 1 56 34-9
Homepage: http://www.sida.se

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EXECUTIVE SUMMARY

The current curriculum reform for basic education in Ethiopia represents a major shift in educational policy in relation to the policy advanced by the previous regime. Communicative, participatory and problem-solving approaches in teaching are put forward as guidelines for curriculum developers and teachers. The use of mother-tongues as means of instruction is encouraged. Criteria for the selection of content include the meeting of local and regional needs. The decision-making for basic education has been decentralised and to a large extent put in the hands of those who stand closer to the cultural and social realities in which education operates.

These changes undoubtedly represent a positive force in the shaping of Ethiopian basic education. However, the present study of curriculum-related aspects of this transformation indicates that although the general policy guidelines informing the curriculum reform are well-founded, various kinds of problems occur in the implementation of these guidelines. On an organisational level, the reform process is admirably well-administered, considering the time frames, the weak infra-structure, the size of the country and the rather new decentralised structure of authority. But the conditions under which the reform is being carried through do not satisfy the requirements for a fully successful implementation. Firstly, the development of new national syllabi and regionally produced teaching materials is not informed by an appropriate educational research in the key areas of primary education, i.e. language, mathematics and science education. Secondly, the formulation of subject-specific objectives and of teaching methodologies is not based on experiences from a truly experimental teaching that would enable curriculum developers to adapt the curriculum materials to the real conditions for teaching. Thirdly, the reform is not accompanied by and does not get regular feed-back from a teacher in-service training programme that comes anyway close to what would be needed. Fourthly, neither the central nor the regional level possess proper instruments for an assessment of the reform capable of identifying specific teaching and learning problems in order to overcome them in time. The so called formative evaluation regularly made in the framework of the curriculum reform does not provide the necessary information on the relationship between curriculum goals and existing levels of learning in the various subject areas. As a result, the impressing investments made in the reform, and the energy that the decentralisation has emancipated, risk to be partially lost. If teaching problems at class room level are not identified and their nature understood, and if practical solutions to such problems are not encountered and disseminated through syllabi, teaching materials and in-service training, the quality of primary education will not substantially improve.

Class room observations in grades 1, 2 and 5 and assessment tests in mathematics carried through within the framework of the present study indicate that Ethiopian primary teaching affronts problems that the on-going curriculum reform currently does not have sufficient capacity for adequately dealing with. In general terms, teaching is far from being adequately adapted to the children being taught, and existing syllabi and teaching materials do not give adequate support to teachers in order for this discrepancy to be overcome. One pertinent aspect of this problem is that national syllabi and regionally produced teaching materials tend to be academic in their conception and too demanding considering the existing conditions for primary teaching. This is most clearly expressed in the division of the first cycle of primary education into no less than 9 separate subjects, whereas an integrated teaching focusing on basic literacy and numeracy skills would have been preferred.

An analysis of policy guidelines for language education indicates that these guidelines generally are in conformity with modern theories of language teaching and learning. The examination of teaching materials in Amharic, Oromigna and English suggests, however, that a probably strong and rather different tradition for language teaching comes across in the existing language materials. Amharic and Oromigna materials exhibit a traditional, structural orientation to language use and acquisition, and reflect a teacher-led, non-participatory philosophy of class room practice. English materials for grades 1, 2 and 6 define pupil activities of an overwhelmingly structured type, where grammar (although not formal grammar teaching) and vocabulary exercises dominate and items of language to a large extent are treated in decontextualised ways. There seems to be, then, an obvious discrepancy between the formulation of curriculum philosophy for language education and its practical implementation in curriculum materials. This may depend both on the fact that policy guidelines are not very explicit on what they take communicative teaching to mean and on the fact that strong language education traditions take overhand.

In mathematics, the national syllabi for grades 1 and 5 are found to be too restricted to a mathematical formulation of teaching goals and give few hints as to the pedagogical dimensions of teaching. In particular, no reference is made to what kind of modes of thinking pupils are expected to develop and what methodologies teachers and developers of teaching materials may choose in order to promote such desired thinking modes. As a result, the analysed teaching materials give little support to teachers in this respect and also tend to have no clear conception of how exercises related to various subject matters should be pedagogically structured and sequenced. Weak results on assessment tests given in grades 2 and 6 on basic subject matters pertaining to the goals set by the syllabi for grades 1 and 5 are taken as an indicator of a serious discrepancy between objectives and teaching realities in

mathematics in Ethiopian primary schools. There is no sign that syllabi and teacher's guides are aware of the implications of such a discrepancy.

In Science, an examination of the new syllabi and teaching materials for grades 1, 2, 5 and 6 indicate that content often is over-saturated with scientific concepts that demand high ability for abstract learning and put very little emphasis on how pupils form or negotiate their conceptions of the natural world. Even though problem solving aptitudes are celebrated at the level of policy guidelines, there is no sign of a coherent pedagogical strategy to create such abilities through teaching or build teaching processes on them. Some of the analysed teaching materials are extremely demanding for the age-level for which they are designed, and probably encourage teaching and learning processes based on memorisation more than understanding.

No thorough analysis of curriculum materials for teacher education is made, but some problematic aspects of the current role of teacher pre- and in-service training are pointed to. It seems that the academic up-grading component of teacher education is not fruitfully integrated with the component of preparation for the future teacher profession; trainees themselves study in ways in which they are not supposed to teach in their professional life. Further, it is pointed out that a strategy for breaking the current isolation of the TTIs from primary education realities must be developed and that they, as professional institutions, must be given a more strategic role in a much needed reinforced in-service training programme in relation to the curriculum reform.

The Institute for Curriculum Development and Research plays a crucial role in the implementation of the reform. Although the Institute in organisational terms admirably has coped with the task entrusted to it and under hard constraints kept tight time-schedules, it has not been given the conditions for providing an input with the desired quality, neither in developing syllabi nor in supporting regional curriculum development. Curriculum development for basic education tends to lack both the kind of awareness that research in the concerned key areas could supply and the practical know-how that arises from extensive experience from developmental work in primary teaching. In this respect, the current separation between curriculum development and research is unfortunate, as are the constraints that hinder staff from making regular visits to schools in the regions. Staff at the Institute would need the necessary conditions for creating the high professional competence that would enable an institution at central level to provide adequate input into regional curriculum development, and especially so in a future where such input at high professional level probably will be required in order to deal with quality-related problems in primary teaching. Such conditions would also include an improvement of the material conditions for the functioning of the Institute, which are far from adequate for the role it assumes. If such

conditions were created, the ICDR could play a partly new role as a central institution giving a more professional and technical support to the regional education bureaux, at the same time bridging regional experiences from primary education development.

At regional level, the so called strong regions have established curriculum development departments with a great potential for the improvement of the quality of primary education in their regions. However, these departments still need to develop professionally both in curriculum development generally and in didactics related to the key areas of primary education. They also need better material conditions for their work. Staff and other resources are far from adequate for the task they are assuming. As a result, the recently produced teaching materials for grades 1 and 5 are little innovative in relation to previous models and to the national syllabi, and obviously do not properly address the problems affronted by primary school teaching.

In weaker regions, an even more coherent support, embracing most components of a regional strategy for educational improvement, would be necessary if the curriculum reform shall lead to substantial gains. Such support would include not only curriculum development activities as such, but also in-service training, provision of materials and institution building at regional level. A coherent Sida support to one or more so called weak regions could, however, lead to substantial improvement of basic education in these regions since so much is to be gained.

It is suggested that a joint capacity building programme, integrating adequate educational research in the key areas of primary education, experimental pilot projects, substantial in-service training components, the establishment of proper traditions for educational assessment and measurement and, finally, international networking, could be a way to create more durable conditions for the improvement of the quality of primary education through curriculum reform. If such a programme could be a joint venture between a central institution, the ICDR, and the regional bureaux, it would also enable the central and regional levels to overcome present tendencies to weak collaboration and to guarantee a future inter-regional exchange of experience. Such a programme should also comprise training in curriculum development and interrelated areas such as educational research, linguistics, language education, conceptual studies, educational assessment and measurement, etc., possibly in the form of part-time studies at Master's level. Finally, a capacity-building programme of this nature would benefit largely from being organised as a partnership between the Ethiopian institutions and a foreign sister-institution that, in collaboration with other foreign institutions, could provide continuous technical assistance on a part-time basis from highly qualified and experienced specialists in the concerned areas (linguistics and language teaching, mathematics teaching, science teaching, educational measurement, as well

as curriculum development and didactics in general) and that could facilitate international networking. Further, departments at the Addis Ababa University should be included as supportive institutions in such a programme.

It is suggested that an investment in capacity-building in curriculum development for basic education and related areas at the regional bureaux, accompanied with an adequate material support, is justified, considering that the main responsibility for education at this level now and in the future lies with the regions.

Two possible models are suggested for a capacity building programme of this kind aimed at increasing the quality of basic education through curriculum reform. Firstly, there are strong arguments for a central body like the ICDR to be a stakeholder in such a programme, and possibly assume a co-ordinating role. By preference, cost-intensive investments in research capacity, educational assessment, international networking and training programmes should be co-ordinated and not made separately in the regions (even if part of the available funds for such a programme probably should be put at the disposal of the regional bureaux), also in order not to increase regional differences to the disadvantage of weaker and remote regions. In this sense, a central institution like the ICDR could play a bridging role.

However, it should be made clear that a parallel investment at the ICDR would make sense only if there is a political mandate - and also a clearly expressed interest at the ICDR itself - for the Institute to be committed in basic education in future, and to partly redefine its role in relation to the regional bureaux. There must also be a genuine will to address the needs resulting from such a commitment. If this is not the case, resources for improving capacity in curriculum development and related activities at the level of basic education should probably be concentrated mainly to the regional bureaux that are willing to collaborate. In order to co-ordinate activities, an inter-regional unit would probably have to be set up.

Further, material conditions for curriculum development activities urgently have to be improved, both at the ICDR and at the regional bureaux, especially as concerns transport, printing and computer facilities. In regions where Sida may contribute more substantially to curriculum development activities, such resources would need to be provided. If support is also given to the ICDR in the context of curriculum reform for basic education, material resources of the same kind would need to be included.

1. INTRODUCTION

This small study was made as a consultancy for the Swedish International Development Agency (Sida) and the Ministry of Education in Ethiopia, as part of a general sector review intended to provide a basis for negotiations and decision-making concerning future Sida support to the education sector. Terms of reference are found in Appendix A. In accordance with the terms of reference, the study focuses to a large extent on the role of the ICDR. However, since the ultimate responsibility for basic education in Ethiopia now lies with the regions and the Regional Education Bureaux are in the process of building up their own curriculum departments, it has been natural and necessary also to address needs and constraints at regional level. In fact, the ICDR already collaborates with and supports the regional bureaux in their work. One of the key issues addressed in the current study concerns the conditions, as well as the character and quality of this support. An important constraint for the study has been the complexity - and richness - of Ethiopia's new education system. For obvious reasons, it has not been possible to visit more than a few of the 14 regions or nations. Neither has it been possible to go to depth with the many complex educational issues that these regions are facing. Since curricula, teaching and learning basically concern social, cultural and linguistic matters, a more thorough evaluation of the current curriculum reform would have to address such issues. The current study is in fact a mixture of a small but nonetheless somewhat systematic attempt to investigate some aspects of the new national curricula and of their materialisation in teaching materials and teaching, and of an endeavour to reach an analysis through the reading of various documents and through discussions with educationalists at both central and regional levels - at the ICDR, four regional education bureaux, one teacher training institute, zone and woreda bureaux, primary schools, the University of Addis Ababa, and donor agencies active in the sector.

A few deviations from the terms of references, at least in their original version, should be commented upon. Firstly, the original terms of references stated that curriculum development at ICDR should be evaluated since 1991, i.e. that the evaluation should include the so called transitional curricula operating from 1991 up to the endorsement of the current curriculum reform in 1994. It was agreed with the Ethiopian counterpart that it would make very little sense to dedicate scarce time resources to a careful analysis of these curriculum materials, since it is evident that they above all represent a compromise between the necessity of change and the conditions for providing such change in short time. Evaluating these already by-passed curricula would not substantially contribute to the far more important evaluation of the current curriculum reform. It was also agreed that an evaluation of the new curriculum

materials would permit a much more serious assessment of manpower needs at ICDR and in the regions. Sida accepted this change of focus in discussions with the team leader.

Secondly, time proved not to be sufficient for a serious analysis of curricula and teaching materials for the teacher training system. Even if these materials are dealt with in the study, the analysis very far from covers all areas where new curricula are currently being developed.

Thirdly, the terms of reference make a few references to very detailed aspects of curriculum development, such as the allotment of periods (lessons) per subject. It should be emphasised that it would make little professional sense to make isolated comments on such detailed and concrete levels of a curriculum. As shall be argued in this study, one of the most problematic aspects of the new curricula for basic education is that they divide primary teaching into no less than nine different subjects, instead of opting for a more integrated teaching with emphasis on the core skills of literacy and numeracy. In that perspective it would be pointless to make statements as to the appropriateness of the current time-table for primary education.

The author would like to express his gratitude for the warm welcome he met and the positive collaboration he was always offered during his 5 weeks in Ethiopia, at ICDR, at the regional bureaux and in the visited schools. In particular, this gratitude extends to my two immediate counterparts, Ato Assefa Beyene, who spent much time explaining the complexity of the Ethiopian education system and its history, and Ato Getachew G'Tsadik, a well-informed guide during the travels in the regions, to Mrs Tewabech Eshete, head of the Curriculum Evaluation and Educational Research Co-ordination at the ICDR, Ato Kedir Ibrahim, head of the Academic Subjects Curriculum Development Co-ordination, Ato Mebratu Birhan, head of the Technical, Vocational and Teacher Education Curriculum Development Co-ordination, and, finally, to Ato Deredje Terefe, head of the Institute.

COMMENTARIES TO THE ICDR'S COMMENTS TO THE PRESENT STUDY

The draft version of this report was presented in mid-January. In the present, final version, few changes have been made. The most significant one relates to the discussion of ICDR's potential role in quality improvement of basic education through curriculum reform. In the draft version of the study, the main author was perhaps too naively optimistic about the possibility that the ICDR, as a central institution, could assume a somewhat new professional role in this context. It seems now that if there is no political mandate and no particular interest at the ICDR itself for the Institute to increase its professional competence in this area

through engaging in adequate educational research, pilot projects, educational assessment, training courses and international networking, *in close collaboration* with the regional bureaux, then it is doubtful whether it makes sense to invest in capacity building in this area at the Institute.

This question is indirectly focused by the comments that the ICDR has been kind enough to make to the draft version of the present study. The author has agreed with the Institute to include these commentaries in this final version as an appendix. A few reflections on these commentaries should be made here. For reasons of clarity, the comments to the critical points raised by the ICDR are numbered.

1. The ICDR points out that the draft version of the report incorrectly suggested that the national syllabi for basic education are a product of the Institute itself, whereas in fact the final proposals for national syllabi (that are later endorsed by the Ministry of Education) result from the national workshops where the original drafts written by the ICDR curriculum panels are thoroughly discussed with the regional bureaux and revised. Hence, the existing national syllabi for basic education are not in any sense imposed upon the regional bureaux, but discussed, revised and accepted by these bureaux before being adopted by the national workshop, not by the ICDR. This point is made clear in the present final version of this study.

However, this issue again underlines the ambiguity of the present situation as concerns the responsibility for the curriculum reform and the question of whereto resources for curriculum development should be directed. One of the arguments in the present study is that capacity building in the area of curriculum development also should embrace a central body like the ICDR. Several reasons for this are presented: the national standards must at some point be negotiated with a central institution with sufficient experience and competence in this field; for many years to come there is a need for technical support in curriculum development from the central level to especially weak regions; there is a need for a national co-ordination of at least a number of activities related to curriculum reform; cost-intensive research activities and international networking of the kind that this study recommends would be more beneficial to the country as a whole if they at least in part where set up at a central institution with a mandate to put them at the disposal of the regional bureaux. Obviously, similar considerations must have been behind the political decision to maintain a certain role for the ICDR in curriculum reform for basic education also in the present political context of decentralisation. However, this kind of *raison d'être* for maintaining and eventually strengthening capacity at the central level in the area of curriculum development for basic education seems to come into conflict with the perspective expressed by the ICDR in its comments:

> "As the total mandate of primary education is the regions' sole responsibility, the ICDR never interferes with the regions' work; there is no need of going to regions to monitor or do routine activities for ICDR experts. Indeed, ICDR experts are expected only to provide professional and technical assistance in the regions' attempts to design and implement curricula."

Certainly, there must be a significant difference between "interfering with", "monitoring" activities or doing "routine work" in the regions, on the one hand, and *collaborating* with the regional bureaux, on the other. When the present evaluation study stresses the importance of the ICDR co-operating with the regional bureaux in research activities, pilot projects, educational assessment and international networking, the perspective is not at all that the ICDR in any sense should take over part of the responsibility for basic education that the regionalisation has put into the hands of the regions. The idea is another one, namely that a number of activities in which it is necessary to engage in order to improve the quality of curriculum development could be a joint venture between the regional bureaux and the central institution, the ICDR. The argument of the present study is that the ICDR does not have sufficient professional competence in basic education to produce adequate proposals for national syllabi, to support the regional bureaux in an adequate way in curriculum development and related activities or to fruitfully bridge experiences between regions as concerns primary teaching development or between regions and the external world. It is claimed that this insufficiency is due to various factors, among which one of the most important is a lack of the kind of familiarity with primary teaching realities that stem from adequate research on primary education, from pilot projects and from extensive visits to primary schools. The argument is that curriculum development of high quality presupposes an input of exactly this kind, integrating experience of theoretical and practical nature. One of several necessary requisites for gaining such experience would be to engage in *co-operation* with regional bureaux in research projects and applied pilot projects, which is something quite else than claiming to "monitor" routine activities on the regions. It is astonishing, that the ICDR in its comments maintains that its staff members have no need to engage more extensively in activities in the regions related to primary education. It is very difficult to understand how the ICDR experts could improve the quality of the contribution they make to curriculum development through their work with draft syllabi, through the formative evaluation and through the technical assistance they give to the regions if they do not accumulate knowledge through continuous experiences of exactly this kind. Further, it is the belief of the authors of the present report that if Sida funding is to be provided for

improving the *quality* of curriculum development, such funding would have to be directed towards this kind of activities. If the ICDR has no mandate or will to engage in such activities, support would probably be better used at regional level only. If the only long-term role of the ICDR in curriculum reform for basic education is to develop draft proposals for national curricula and to organise the national workshops where the regional bureaux and other experts discuss, revise and endorse these proposals, then there does not seem to be much point in strengthening capacity at the Institute in the area of basic education. As pointed out in the evaluation study, it is likely that the ICDR then gradually will loose legitimacy as an important institution in the context of basic education, since the regional bureaux, and especially the strong ones, gradually will become far more professional than the central institution through accumulating experience and know-how. The argument for maintaining an important role in this respect for a central institution like the ICDR is twofold. Firstly, high-cost investments like the ones in research, academic up-grading programmes and international networking would be difficult to make in all regions. If there is no central co-ordination of the kind suggested in the conclusion chapter of this report, the losers will probably be the weaker regions with scarce manpower and little access to higher educational institutions of their own. Secondly, quality improvement of teaching materials and teacher training programmes based on activities such as educational research, pilot projects and educational assessment that in this case would be a solely regional undertaking would need to feed into and influence the development of national syllabi. If the concerned central institution, the ICDR, is essentially left outside these activities, then it may become increasingly difficult to agree upon national standards.

2. A second point made in the comments from the ICDR relates to the research base for the current curriculum reform in primary education, which the Institute claims is considerably larger than what is acknowledged by the present study. What is at stake here is probably the *notion* of educational reset related to primary teaching. As pointed out in the study, one important background for the current curriculum reform is to be found in the awareness of teaching problems created among other things by research findings, especially in the context of the so called ERGESE project. It seems that the political change that followed the fall of the Dergue regime created conditions for a much needed discussion of the kind of problems that these research findings pointed to. The present report also acknowledges that the ICDR itself in recent years have contributed with significant studies on various aspects of basic education, most of which have been read in relation to the present evaluation. The point made in this report is not that this research is inappropriate as such. The argument is another one: that the ICDR has not developed the kind of more specific research traditions that - when successfully applied - in many African countries, and in the rich part of the world, feed

curriculum development and teacher training programmes with relevant information on teaching and learning processes, on children's conceptions in areas related to teaching and how these conceptions influence learning, on how teachers think and how they understand concepts they teach, pupils' difficulties or the teaching processes they are involved in, on how communication patterns in the classroom really look like, on what more specifically is the learning outcome of teaching, or on specific linguistic and cultural conditions for teaching and their impact on for example selection of content or teaching methods. To put it simple, there is no research of this kind at the ICDR, and ICDR experts are not familiar with this type of modern research traditions. Consequently, syllabi tend to be written without the kind of awareness that research findings and the intellectual tools supplied by these research traditions can provide. Even a modest research approach of this kind would call serious attention to what still, in the context of the new curricula, seems to be one of the most important problems of teaching in basic education in Ethiopia, like in most other developing countries, namely the striking discrepancy between the goals set by curricula, syllabi, teaching materials and teaching, on the one hand, and the real level of learning among pupils, on the other hand. If this discrepancy is not seriously addressed, repetition and drop out rates will continue high.

The issue of the research base for the current curriculum reform in Ethiopia also touches another question in relation to which the ICDR is critical to the evaluation study: the research competence at the Curriculum Evaluation and Educational Research Co-ordination (CEERC). Here, once again the argument in the evaluation study is somewhat different from how it has been understood by the ICDR. The point made in the study is twofold: on the one hand the CEERC really does comprise many experienced and qualified researchers, who undoubtedly represent an important resource in the context of the curriculum reform; on the other hand, these researchers are generalists and have had no reason or opportunity to specialise in the kind of research traditions referred to above. It probably takes several years to produce a full-fledged professional specialist and researcher in mathematics, science or language education, even with a high academic level such as a Master's exam as starting point. Such professionalism would imply many years of investment in the area of specialisation, integrating practical experience from the field with reading and familiarity with the international development in this particular area. Being a sociologist of education, the main author of the present evaluation study would for example never dream of claiming to be sufficiently competent and experienced to satisfy the research needs for curriculum development in mathematics, science or languages. In order to seriously fulfil such a role, years of accumulated experience would be needed in each one of these areas. In fact, one of the strong arguments for investing in capacity building at the ICDR is exactly that many staff

members at the Institute probably do keep such a high professional and academic standard that expertise of this kind would be possible to achieve in less time than under less favourable institutional conditions.

3. Thirdly, the ICDR makes the point that although the new curricula count with 8 or 9 subjects in basic education, these subjects are far more integrated than the present study suggests. The authors' impression from the analysis of syllabi and teaching materials, as well as from school visits, is that the learning processes encouraged by curriculum materials (syllabi, teacher's guides and student's books) and by teachers are much less integrative and characterised by a much more "linear" progression than would be wished for. As pointed out in the evaluation study, the concepts of a "problem solving" and "integrative" approach obviously plays a far more important role at the level of policy documents than in the concrete materials determining actual teaching. Furthermore, all assisted lessons in pilot schools kept strictly to content and skills supposed to be specific for each particular subject. There was virtually no "problem solving" or "integrative" approach to be seen anywhere. However, it should be recognised that teaching traditions probably cannot be changed overnight and that the implementation of a more integrative approach in teaching probably would presuppose heavy inputs in teacher in-service training over a long period of time. The point made in the evaluation study is that no visible strategy could be found among the ICDR panels for really trying to create - in a long-term perspective - a more integrative teaching with focus on the basic skills of literacy and numeracy.

4. A fourth critical comment from the ICDR on the evaluation report relates to the point made in the study, that the current Ethiopian curriculum reform unfortunately lacks input from experimental teaching in a more ambitious sense. It is argued in the study that the so called pilot schools - given the conditions and time-constraints under which they reform is implemented - do not contain any experimental teaching projects aimed at trying out and finding new teaching methodologies.

Two comments should be made in relation to this issue. Firstly, it seems that partially the ICDR criticism of this view of the pilot schools is based on a different understanding of the word "experimental" than the one intended in the report study. "Experimental teaching projects" was not meant to refer to "pure experimentation that demands experimental and control group", to use the expression of the ICDR, but to something quite different, namely *pilot projects* where teams of researchers and teachers in a literal sense "try out" functional teaching methodologies, with the specific aim of overcoming difficulties of learning that have been identified by research and by a previous analysis of teaching and learning processes. In an ongoing pilot project in mathematics in Mozambican primary schools, for example, the aim is to find out how content can be structured and sequenced in syllabi and teaching

materials and how teaching methodologies can be changed in a way that is adapted to the professional level of the existing primary teachers (so that these teachers can realistically use the materials under normal teaching conditions) and to pupils' culturally determined ways of understanding and doing mathematical operations. The developmental work is made in collaboration with the primary teachers themselves and include regular small workshops and discussions where all aspects of the work are debated. Further, results are continuously evaluated through educational measurement of learning outcomes, including both tests and interviews with pupils aiming at a diagnosis of how their modes of thinking in mathematics develop. Similar projects exist in various African countries. They may possibly also exist in Ethiopia, for example in the framework of the so called Primary Education Assistance Project in Oromia region, but they apparently are not part of the official conceptualisation of the current curriculum reform.

5. The ICDR makes the point that it is not true that there is little or no assessment of the outcomes of the curriculum reform, and refers to the built-in assessment instruments in teaching materials, to the formative evaluation and possibly to other existing forms of testing. It is possible that some existing assessment instruments, like national or regional tests performed outside the ICDR, were not known to the authors of the evaluation study. With this reservation made, it should once again be emphasised that the formative evaluation - which is discussed in some detail in the study - does not provide appropriate assessment instruments. No example of educational assessment of the existing syllabi through testing was presented to the author during his time in Ethiopia, the explanation perhaps being that the curriculum reform only had reached its second year. However, it is somewhat astonishing that such a huge reform is implemented without a heavy component of educational measurement of the outcomes of the reform in terms of learning. The modest tests made in mathematics (in grades 2 and 6 on subject matters pertaining to grades 1 and 5) in the framework of the evaluation study points to serious learning problems that immediately would need to be investigated further in order to inform curriculum developers, text book writers and designers of teacher training programmes. Most probably, similar problems exist in other key subjects. Even if educational assessment through testing may be a dubious undertaking, if made in isolation from more qualitative approaches like class room observations or interviews with pupils and teachers, a well-done diagnostic test or good tests measuring the relationship between curriculum goals and student performance would give an immediate and indispensable information on where syllabi and teaching materials stand in relation to the pupils' level of learning. Class room observations and tests made in the framework of the present evaluation study, as well as the analysis of the demands on learning found in the new curriculum materials, suggest that cleverly done assessment tests

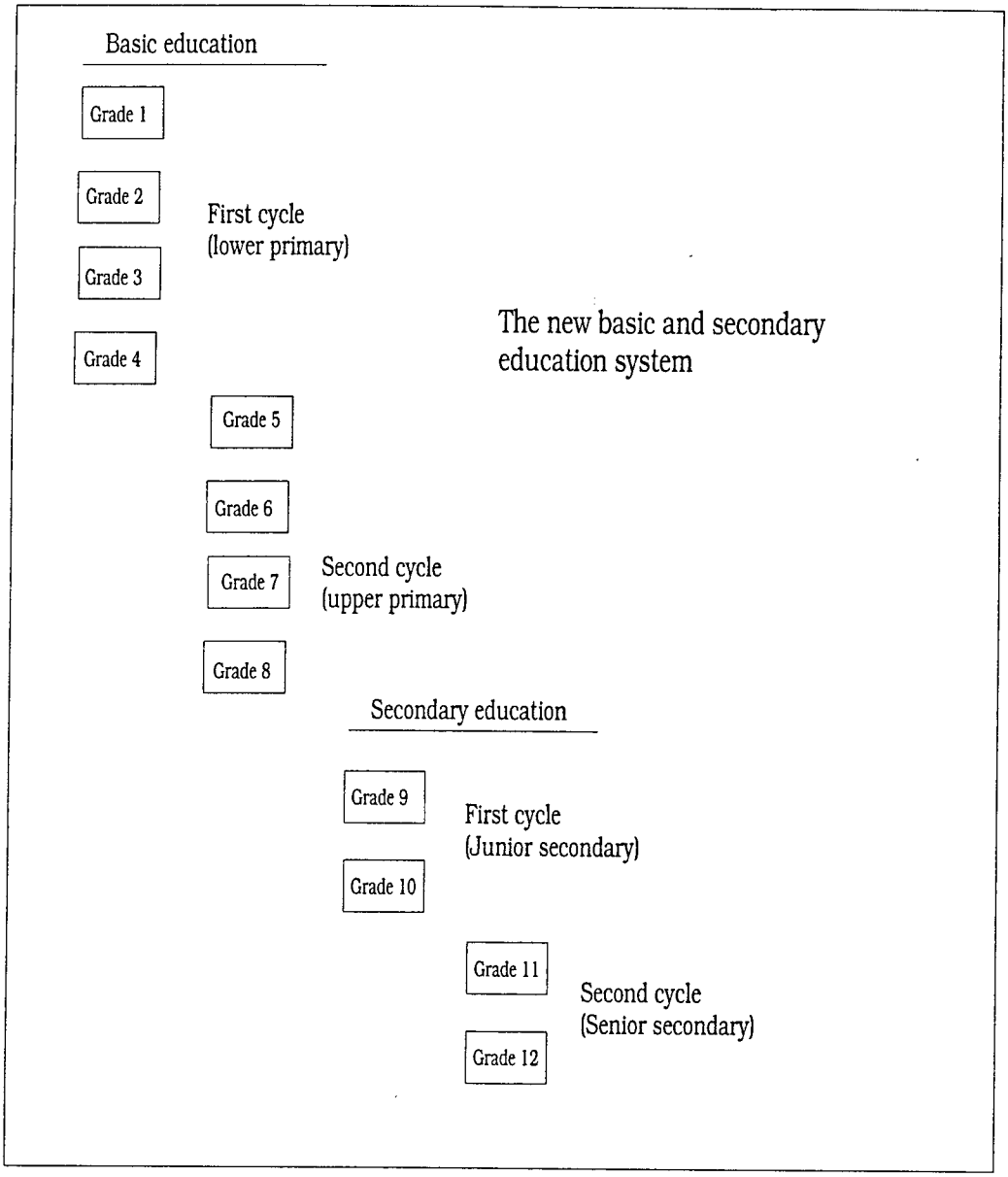
immediately would point to the probably huge discrepancy between the standards set by the syllabi and the demands inherent in teaching materials, on the one hand, and pupils' learning, on the other hand. There was little awareness of this fundamental problem among education specialist with whom the author met in Ethiopia.

CURRICULUM REFORM IN ETHIOPIA AND THE NEW EDUCATION SYSTEM

The dramatic political change in Ethiopia in the beginning of the 90's, with the fall of the Dergue and the establishment of the transitional government, liberated a long-surpressed discussion of educational issues. In particular, the cultural aspects of education as a means for the various Ethiopian nationalities to shape their own future came to focus. A particularly important step was the formulation of a new language policy, in 1991, which recognised children's right to acquire literacy skills in their mother tongue.

The formulation of a new educational policy soon became a priority. Apparently, the experience that the education system had been largely used by previous regimes as a means for political and cultural oppression was the origin of a strong political will to create rapid change. As a first step, so called transitional curricula were endorsed, enabling the various regions of the country to make their own choices as regards, among other things, the language of instruction. Parallel to this development, a political programme for more durable education reform was embarked upon. In April 1994, a new "Education and training policy" was endorsed by the government, followed in September by a still more detailed policy document for an "Education Sector Strategy". In the same year, a concrete basis for a new curriculum for basic, secondary and technical education, as well as for teacher education, was formulated in the "Education and training programme, including period allotment and contents selection criteria. Short term plan for developing and implementing the new curriculum". The latter document was produced by the Institute for Curriculum development and Research (ICDR), which has played a crucial role in the implementation of curriculum reform as the central body entrusted with much of the concrete reform work. The new education system that has emerged though this political process is however above all characterised by a decentralisation of the main responsibility for basic education to the regional councils and the regional education bureaux established by these councils. Whereas national academic standards, or student profiles, are decided upon at central level, the responsibility for their implementation lies entirely with the regions. Aiming at providing an 8-years general education for Ethiopian children, the new education system implies a re-structuring of the previous grade and level divisions. The new structure is shown in Figure 1.

Figure 1.



A FEW WORDS ON THE APPROACH

Curricula and syllabi can from one angle be seen as steering documents of an at least partially political nature, setting both general and subject-specific goals for teaching, selecting contents and defining the academic profile for pupils who pass specific grade levels. In their function as steering documents, they determine, or influence, other systems such as the production of teaching materials, teacher's pre- and in-service training, evaluation or assessment, and, not the least, teaching itself. To do anything like evaluating a curriculum reform would imply taking all these levels into account simultaneously, and all the complex factors that influence them. It is the shared pessimistic experience of many curriculum

developers and educational reformists that changes at one level seldom lead to the desired changes at other levels, and that in particular the most crucial level of all, the actual teaching in ordinary class rooms, is chronically difficult to change.

In Ethiopia, the current curriculum reform is just in its first phase of implementation. This academic year[1], new curricula are being implemented nationally in grades 1 and 5, and curricula for grades 2 and 6 are being tried out experimentally in 107 pilot schools throughout the country, in order to launched nationally during the nextcoming school year. The national curricula and syllabi prepared at the ICDR are transformed into teaching materials (text books and teacher's guides) by the regional education bureaux, which are also responsible for in-service training and other activities related to the implementation of the reform. Given the inertia of any education system, it would be unjust to undertake to evaluate the quality of the new curricula only through assessing the learning outcomes. The effects of the reform are not likely to show immediately. On the other hand, the new curricula and teaching materials have to be functional in a varying but nonetheless specific class room situation, determined by a set of factors such as the cultural and linguistic background of the pupils, the quality of the teachers and the material situation of each school (of which the availability of teaching materials is one of the most crucial aspects). This class room situation is not likely to change in short time. For this reason, it is not too far-fetched to attempt to understand how the new curricula and teaching materials address this class room situation. Are they realistically adapted to the difficulties that teachers and pupils encounter?

This has been the approach informing the section of this study that directly relates to the quality and character of the teaching materials. In a limited number of pilot schools in the visited regions, a small amount of class room observations were undertaken. Further, in Mathematics, short assessment tests were made in Grade 2 on the syllabus for Grade 1 and, to a lesser extent, in Grade 6 on the syllabus for Grade 5. These tests are commented upon in the section on primary mathematics, written by Wiggo Kilborn.

On the basis of the class room observations and assessment tests, the national syllabi, as well as their materialisation in teaching materials in two regions, Amhara and Oromia, were analysed in the subjects of Mathematics, Science, English, Amharic and Oromigna. The analyses of the teaching materials have been made by Wiggo Kilborn (mathematics). Oleg Popov (science and technology) and Christopher Stroud (languages). The specialist team was assisted for translation by Saba Debremichael (Amharic) and Kifle Jote (Oromigna).

The analyse of the teaching materials was severely hampered by the fact that it was not possible to provide the specialist team with a complete set of materials, including both

student's books and teacher's guides in all concerned subjects. Because of their lack of availability, the teamleader was unable to collect all materials during his visit to Ethiopia. Moreover, because of the time-constraints for the study, the specialists were given very short time to do their work, since the materials were brought to Sweden only after the closing of the fieldwork. Since all teaching materials, except for the ones concerning the English language, are written in languages that none of the specialists read, it was also necessary to use interpreters, which further complicated the work. The authors are well aware that the analyses of the teaching materials presented in this study fall short in systematicity and depth, and that they also may comprise misunderstandings and errors.

Since curriculum reform in Ethiopia to a large extent is a decentralised activity, with high responsibility at regional levels, it was necessary to include regional curriculum development in the study. This was important not only in order to examine the quality of this work as such and the conditions under which it is being done, but also in order to assess the role of the ICDR as an institution at central level with a mandate to set national standards, monitor the evaluation of the reform and support the regions in their curriculum-related activities. The study included visits to 4 regions: Afar (region 2), Amhara (region 3), Oromia (region 4) and Benishangul-Gumuz (region 6). In these regions, discussions were held with the regional bureaux, including the bureau head (with the exception for Amhara and Oromia regions), the head of the curriculum department, and various experts working in the academic panels or research units. With the Curriculum and Research Department at the Oromia Education Bureau contacts were more regular, because of its proximity. Further, schools were visited in all 4 regions, and discussions held with principals and teachers.

Parallel to the visits to these regions, regular discussions were held and interviews made at central level, and in particular with staff at the ICDR. It would be lengthy to describe all these contacts here, and the reader is referred to the list of contacted persons in the Appendix B. Finally, a seemingly endless amount of curriculum materials, reports, studies, minutes from various meetings, and other documents were consulted.

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[1] The school year started in September, Gregorian calender, or in the beginning of year, Ethiopian (Julian) calender.

2. THE ROLE OF THE ICDR IN CURRICULUM REFORM

2.1. THE MANDATE AND ORGANISATION OF THE ICDR

According to various sources, discussion were held after the fall of the Dergue as to whether it would make sense, in the new context of decentralisation, to keep a fairly big central institution like the ICDR. If responsibility for basic education would essentially be a regional affair, manpower resources could be shifted from the central to the regional level. It does not fall within the scope of this study to discuss the political or administrative reasons for keeping the ICDR as a quite resourceful centrally body. It should however be emphasised that the Institute to some extent was reduced in staff in order to reinforce the regional level. A number of education experts now active at the regional education bureaux previously worked at ICDR and probably have gained much of their professional experience at the Institute.

The main responsibilities of the Institute for Curriculum Development and Research are four-sided.

Firstly, the Institute has a mandate to develop proposals for national standards for basic education (i.e. for grades 1 to 8 in the new education system) in the form of drafts for national curricula and syllabi. These drafts are discussed and revised at national meetings with the regional bureaux. When agreement has been reached, these meetings result in a revised version which is submitted to the Ministry of Education and finally endorsed nationally. Although the regional bureaux have an equally important role in the last and decisive phases of this process, the ICDR in this respect to some extent functions as a central body for national standardisation. The Ethiopian government sets the academic profiles for basic education on the basis of what was originally a draft proposal from the ICDR. It is yet not clear to what extent the Institute also should act as an inspecting agency, controlling the conformity of regional curriculum development to these national standards. Apparently, this is still a matter to be decided. The Oromia National State (Region 4) has for example decided no to start teaching the subject of Amharic in grade 3, as stated in the national curricula, but only in grade 5. Officials at the ICDR did not feel that the Institute should try to influence such a decision, but the example seems to indicate, on the other hand, that the relationship between responsibilities at central and regional levels are not clearly defined. It is also the mandate of the ICDR both to support regional curriculum development in basic education and to monitor certain trans-regional activities, such as national workshops where subject-specific syllabi are introduced or the so called formative evaluation of the curriculum reform. The process of curriculum reform will be described more in detailed below.

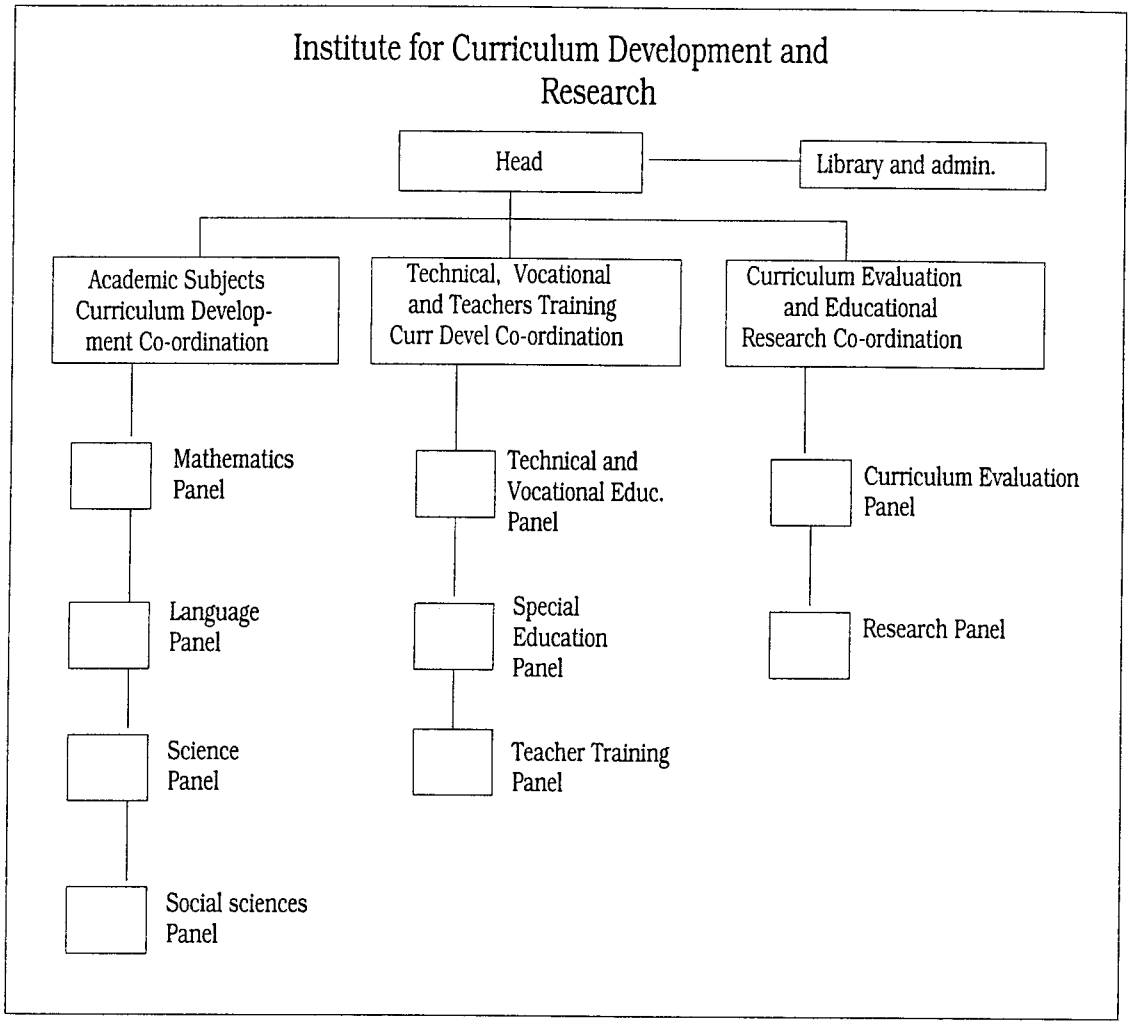
Secondly, the ICDR is responsible for developing nationally applied curricula, syllabi and teaching materials for secondary education, i.e. grades 9 to 12 in the new education system. In secondary education, then, the full responsibility for the academic content of teaching lies at the central level.

Thirdly, the ICDR has the mandate to develop curricula for all technical and vocational training. This responsibility includes the areas of teacher training and special education, as well as the partly new area of vocational training for pupils who do not complete basic education.

Fourthly, the ICDR has the mandate to contribute to the educational development through evaluation and research. As we shall see, the Institute comprises a fairly well-staffed division for evaluation and research which is regularly used for providing information and knowledge needed for decision-making at central level.

The current study focuses mainly on the first mandate of the ICDR, even though the third and fourth area of responsibility also will be addressed. Before going into the question of human and material resources and needs at the Institute, the process and organisation of curriculum reform should first be described.

Figure 2



2.2. THE ORGANISATION OF CURRICULUM REFORM

The process

In order to understand the role of the ICDR in the current curriculum reform, it is necessary to describe the key components of the reform.

On the basis of the nationally endorsed policy guidelines for curriculum reform and for the new education system (see above), the ICDR academic panels firstly produce what is called a flow-chart for the academic contents of the subjects in basic education from grades 1 to 8. These flow-charts represent a sort of structured guide-lines, indicating the main subject-matters and grade-related objectives, for the work with concrete syllabi in the various subjects. As a next step, the panels develop a draft syllabus for each subject. This was made for grades 1 and 5 in 1994, for grades 2 and 6 in 1995, and is currently being made for grades 3 and 7, according to the politically decided pace for curriculum reform. These syllabi drafts

are then sent to the regional education bureaux for discussion. After some time, the bureaux are invited to national workshops where these drafts are discussed and changed according to the outcome of the discussions. These national workshops or meetings, with participation from the regional bureaux and the ICDR, result in a joint proposal for national syllabi which are then endorsed nationally by the Ministry of Education and serve as the basis for the development of regional teaching materials (text books and teacher's guides).

The regional education bureaux normally commission locally or nationally available writers to develop these regional teaching materials. For this task, the so called strong regions - like Addis Ababa, Amhara, Tigray or Oromia - have access to relatively well-experienced writers, who often work professionally at higher institutions, like teacher training colleges or the university, whereas the education bureaux in weaker regions - like Afar or Benishangul-Gumuz - often still write the materials themselves with assistance from the ICDR. It should be emphasised that the process of teaching materials development now only is in its second year, and that experiences from and the forms for this work are gradually developing. The impression from the analysis of teaching materials is that they still normally keep very close to the structure of the national syllabi and possible very often are drafted on models from the previous Amharic materials.

During a first year, these so called try-out materials are tested in 107 pilot or try-out schools throughout the country. These schools are supposed to correspond to certain minimum standards, the most important of which probably is the limit set to the number of pupils per class, and also receive more support and attention from the regional bureaux. Most schools visited within the context of this study pertained to the system of try-out schools.

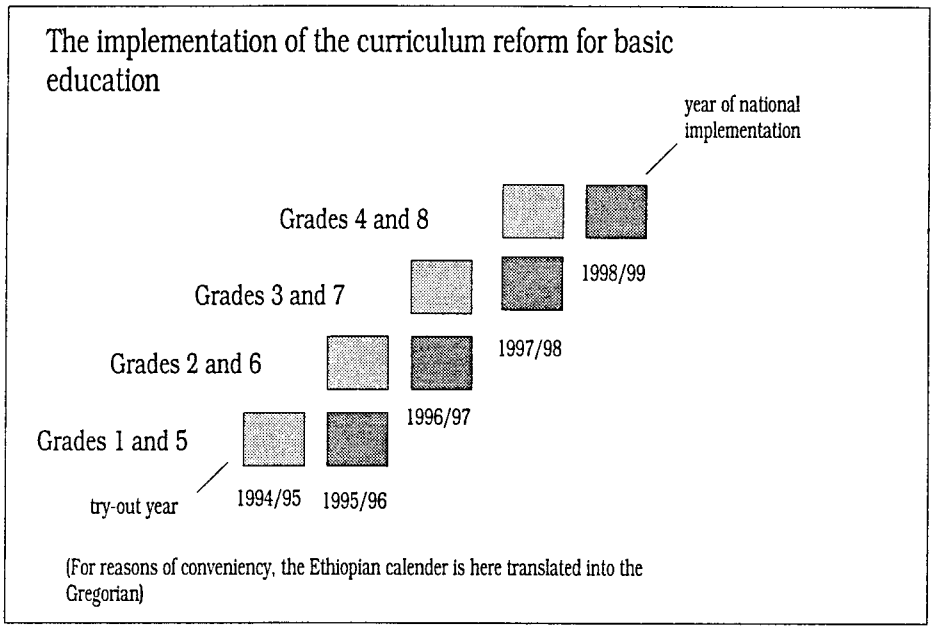
In the second half of the try-out school-year, the ICDR and the regional bureaux visit all 107 pilot schools within the framework of what is called the formative evaluation. Small teams, often headed by experienced staff from ICDR and the regional bureaux, employ a set of evaluative instruments in order to collect relevant information on the quality of the syllabi and teaching materials and on more general aspects of the implementation of the curriculum reform. This formative evaluation also includes the participation by various kinds of specialists who are commissioned to examine various aspects of the new curriculum materials, such as the relationship between the syllabi and the text books. In the strong regions, this so called content-analysis is often made in close collaboration between the regional bureaux and locally or nationally available experts.

On the basis of the outcome of the formative analysis and the content-analysis, the try-out materials are revised at the regional level for the next-coming year. Even if the ICDR also is influenced by the results from the evaluation in its work with syllabi for the grades that come

next in the curriculum reform, the national standards or syllabi are not once again revised, but remain the same.

In the following, second year, the syllabi and the regionally produced and now revised teaching materials are launched nationally. Thus the syllabi and the teaching materials for grades 1 and 5, that were subject to testing in 1994/1995, are now being implemented on a national scale in the academic year of 1995/96. The curriculum reform for basic education will be fully implemented, ending with grades 4 and 8, in 1998/1999.

Figure 3



It should be emphasised that this process as a whole is submitted to several difficult constraints. The most obvious one concerns the time-limits set for the reform. Each year, the endorsed syllabi for each subject in two grades are supposed to be materialised in teaching materials (text books and teacher's guides), that are both printed, distributed, tried-out in pilot schools, evaluated, revised and re-printed for the next-coming year. Parallel to these concerns, new syllabi for an additional two grades are expected to be developed and endorsed, and in-service training at central, regional, zone and woreda levels be accomplished. Even though admirable attempts are made both at the ICDR and at most regional bureaux to cope with these demands, conditions do not allow anything like a smooth implementation of the reform. In none of the visited pilot-schools, pupils had received, at the end of November and beginning of December, the new teaching materials for the current academic year that started in September. None of the interviewed teachers possessed the teacher's guide that s/he were supposed to use, and teachers for their own instruction at the best used the national syllabi or the not revised guides for the try-out year. Both at the ICDR

and at the regional bureaux one of the main concerns was the scarcity of printing and duplicating resources. As a result, confusion seemed to arise, even in pilot schools, as to what was expected to be taught and evaluated during the try-out year. The constraints had their perhaps most serious impact in the scarce capacity for in-service training at various levels, which will be commented upon below.

The drafts for national syllabi

The development of flow-charts and draft syllabi at the ICDR is based on the experience and ways of working of the various academic panels. As shall be argued in more detail in the section dedicated to some of these panels below, this work is hampered by the fact that the panels do not possess conditions for doing their own research in their area of specialisation, that they do not have the conditions for regularly visiting schools in order to study the problems of teaching and learning under real conditions, and, further, by the fact that few staff members have any substantial personal experience from primary teaching. It is further constrained by the fact that the panels also are responsible for the development of curricula and teaching materials for secondary education, which leaves little time for their few staff to go to depths with the specific problems of primary teaching. The ICDR academic panels manage their task - even if the product of their work, the syllabi, probably often falls short in quality - mainly because they do include fairly experienced and committed staff members.

The workshops

National workshops where syllabi are debated or other aspects of curriculum reform discussed play an important role in the process of curriculum reform. It was not possible to assist any of these workshops in the framework of this study, and the little that can be said about them originate from second-hand sources. Firstly, it should be emphasised that these workshops as such probably represent an important occasion for curriculum developers at regional and central level to meet and discuss content-related aspects of their work. Even if some serious discontent with the workshops were expressed by specialist at regional level, most interviewed officials at least indirectly testified that the workshops presented an opportunity to air common concerns. Secondly, the workshops as such probably represent a necessary step in the process of curriculum reform, if national standards, as expressed by the national syllabi, should have any legitimacy at regional level. Thirdly, however, most representatives from the so called strong regions - in this case Amhara and Oromo education bureaux - were critical of the form and content of most national workshops arranged by the ICDR. It was argued that the workshops were organised in an old-fashioned way with focus

on a theoretical presentation of content and almost totally lacking the kind of practical, hands-on approach that regional curriculum developers so much need. Several curriculum developers from the strong regions made the point that the ICDR specialists both have little useful knowledge on teaching problems in primary education and lack sufficient understanding of the regional educational realities. As a result, the workshops tend to be increasingly irrelevant to curriculum development in their respective regions. Addressed with this concern, ICDR staff argued that the national workshops are a joint undertaking, not only ICDR's, and to a large extent become what is made out of them by the participants, and further that the Institute would be open to any kind of form or content that was wished for.

Support to the weak regions

It is probably typical that the more unreserved positive recognition of the ICDR as a central institution with a vital role in curriculum development came from the so called weak regions. Short in manpower and resources, and stigmatised by their remoteness, these education bureaux could not but be positive for the support they have been given by the ICDR. Both in the case of the Afar Education Bureau and the bureau in Benishangul-Gumuz, ICDR specialists had given substantial support to the development of teaching materials. Even if these materials were said to be written entirely by educationalists from the region, the ICDR provided detailed advise on sequencing and selection of content. When the materials for Benishangul were written, staff from the regional bureau spent several months in Addis to accomplish their task. The ICDR also represents a vital point of contact for the regional bureaux, in fact probably one of the few places they can turn to in order to get assistance or information. When coming to Addis Ababa, education officials at these bureaux would typically visit the ICDR, if not else for social reasons.

Two comments should be made in this context. Firstly, it seems unrealistic that the education bureaux in the so called weak regions - such as Afar, Benishangul, Gambella or Somali - within short should be able to meet the demands of regional curriculum development without substantial assistance from central bodies. Since the ICDR is the most apparent candidate for such a support, it is likely that the Institute for some years to come will have to assume this role. Secondly, it could be argued that the institutional and material capacity of the ICDR is not adequate for such a role. Specialists at the Institute do not have the time and resources to get sufficiently knowledgeable of regional realities and to provide the support that would be needed, for example through extensive stays in these regions. Such support is not part of ICDR's mandate and is not reflected in its budget.

The formative evaluation

The so called formative evaluation plays a crucial role in the current curriculum reform. It is the main instrument for feed back of the experiences gained during the try-out year, when the new, try-out teaching materials are used in the 107 pilot schools. It also represents a huge effort, involving, as it is, all major stakeholders in education - pupils, parents, teachers, principals, education officers and various kinds of experts at regional and national level. The pure administration of the evaluation probably represent a considerable enterprise, from the integration of the various participants, to the school visits, and the final writing of reports.

The instruments for the evaluation are carefully described in specific documents worked out by the Curriculum evaluation and educational research division at the ICDR. The following account is based on the guidelines for the evaluation of the try-out materials for grades 1 and 5, informing the formative evaluation made of the first try-out year in spring 1995, and on some of the summary reports written on the basis of the collected data from this evaluation.

The data collection instruments cover questionnaires for headmasters, teachers, education officers and experts at various ministries, as well as guides for interviews with pupils, parents and school committee members, forms for class room observation and school inspections, and, finally, a form for what is named "content-analysis" of the teaching materials. Evaluation teams are formed for each region, normally headed by experts from the ICDR and the regional education bureaux, which visit each one of the pilot schools in that particular region. Parallel to these visits, during which questionnaires, interviews and inspections are carried through, commissioned experts go ahead with the content-analysis of the materials. When data are collected, the experts at ICDR and the regional bureau in charge of the evaluation write a report summarising and synthesising the results. In principle, a specific report should exist for each one of the regions. Finally, a "Summary report" is written presenting an overview of the main findings from all the regions.

Without going into the details of all these instruments for data collection, some summary remarks should be made as to their appropriateness. Being designed for quantitative treatment and analysis, the questionnaires have a bias towards a formalised, survey-like techniques that often seem to be questionable. Headmasters and teachers are for example asked to react in three possible ways ("yes", "no", "I don't know") to a number of important quality-related statements, such as "I feel that the new curriculum is well developed", "Parents support the new curriculum" or "The new curriculum has a lot of problems". In the questionnaire for teachers, the respondents are invited to rate such things as the "appropriateness of subject-specific objectives" in the syllabi, the "content organisation" found in the teaching materials or the "appropriateness of the suggested teaching aids" on a scale from 1 to 5. Pupils in grade

5 are asked whether learning has become easier with the new text books and given 3 or 4 possible answers to choose between. There seems to be several doubtful assumptions hidden behind these techniques for obtaining valuable information from informants. One is that a specific question is interpreted in more or less the same way by all or most informants. This is probably not so. Another is that it can be assumed that the answers given express real opinions and are not a product of the interview situation. A third assumption seems to be that there are reasons to believe that the informants really do possess the necessary qualifications both for understanding the questions as it is formulated and for giving a well-informed answer; else the question would perhaps just measure a sort of general attitude, not a reflexive standpoint. In the absence of more open, qualitative, complementary questions - which are very few in the questionnaires - it is simply difficult to estimate what meaning and value the answers given by the respondents have. In other words, the questionnaires to a large extent build upon the idea that it is possible to get a satisfying picture of rather complex matters related to the new curriculum materials - including the question of how various groups relate to these materials - just through asking a set of formalised and simplified questions to concerned stakeholders. This is probably not true. In order to investigate aspects of the teaching materials that are worth investigating in order to identify and overcome various kinds of problems linked to their structure and use, more sophisticated instruments for data collection would be needed.

The class room observation form suffers from similar shortcomings. In one section, the observer is instructed to rate the applicability of a set of pre-fabricated statements about the lesson, some of which are notoriously vague (e.g. "The teacher motivated or stimulated pupils' learning", "The teacher's command of language is vivid, well-pronounced and grammatically correct"). In a following section, the observer is among other things asked to classify the lesson as "problem-solving oriented" or not, without further specifications. No information as to the criteria to be used for such classifications are given. The same observation applies to a preceding question, where the observer is invited to indicate if "lecture", "discussion", "demonstration" or other "teaching methodologies" were used during the lesson, without stating which criteria should be used for the classification. Except for the factual information collected through the observation form, then, the collected data seem to be notoriously unprecise.

By far the most useful instrument in the formative evaluation is the so called content analysis. Being addressed to experts, this instruments consists of a fairly elaborate list of mostly open questions focusing on various aspects of the teaching materials. These questions include such things as an examination of the relationship between the syllabi for the specific grade and subject, on the one hand, and the teaching materials on the other, the sequencing of

content or the cultural and social adequacy of the presentation of subject matters. The experts are in other words asked to give detailed and critical comments to the teaching materials along various dimensions.

To sum up, the investment of time and resources made in the formative evaluation hardly seem to correspond to the value and relevance of the information being collected. In order to identify problems of teaching or learning related to the new curriculum materials, more precise instruments for observation and data collection would be needed. A "true" picture of what is happening in teaching does not emerge just through collecting the opinions of various stakeholders, and especially not so if these are collected through formalised and pre-fabricated sets of questions. Most probably, curriculum developers at the ICDR and at the regional bureaux need a much richer, more profound and more detailed feed-back from the try-out year in order to identify and find solutions to problems of teaching in the various subject areas. The content-analysis seems to be much more relevant for this purpose, but is limited in its approach, since it is basically a desk study and does not include any analysis of teaching or teaching conditions.

These remarks seem to be confirmed by the summary reports from the formative evaluation. Undoubtedly, some valuable information do come out of questionnaires, for example on attitudes to various aspects of the curriculum among different stakeholders, or on factual circumstances, like the availability or non-availability of text books. One such point is the obvious resistance among teachers against self-contained classes. Most of these discoveries could, however, possibly have been made using more limited, qualitative instruments, requiring far less investments. The analyses based on the class room observation form give little valuable information. A cleverly designed class room observation study on a reduced scale would undoubtedly have given more information that could feed into the revision of teaching materials and into teacher in-service training programmes. The most valuable results of the formative evaluation definitely emanate from the content-analysis. This was also confirmed by regional curriculum developers, who made extensive use of the comments made by the content analysts, but had difficulties in giving examples on how other parts of the results from the formative evaluation had come to positive use.

When this criticism has been made, another aspect of the formative evaluation enterprise should perhaps be pointed to. It may well be that there is a point as such in the fact that so many stakeholders on a nation-wide scale are involved in an evaluation of this kind. This may have a dynamiting effect that would not been achieved if a limited number of experts were engaged in a more professionally designed evaluation.

Finally, one last point should be made in this context. The formative evaluation does not comprise any component of educational measurement. In the context of the education reform,

the main responsibility for educational assessment and measurement lies with the a newly created body at central level, entrusted with the double task of developing the national exams and providing educational assessment and measurement. It is not known to the author to what extent this body is also expected to engage in diagnostic testing and pedagogical measurement attuned to the specific necessities of curriculum development. However, currently no such measurement of the outcomes of the curriculum reform in terms of learning seems to be made at all. The curriculum reform would benefit greatly from the awareness that such measurement might help to create, if consciously done, and of the adaptation of subject-specific goals to the realities for teaching that it might incite.

2.3. HUMAN AND MATERIAL RESOURCES AT THE ICDR

Before entering into a more detailed description of the staffing situation at the ICDR, a few general remarks should be made. Being responsible for the development of draft syllabi for primary education, for the formative evaluation of the current curriculum reform, for direct support to curriculum development in weaker regions, for curriculum development for technical, vocational teacher training, and, finally, for development of national curricula and teaching materials for secondary education, the Institute assumes many responsibilities. Even without entering into the difficult question of what quality this work has shown to have, it should be emphasised that the ICDR undoubtedly is an efficient and well-functioning institution in administrative terms, considering its material and man-power situation. Tight time-schedules have been held and the activities entrusted to the Institute have been carried through. The following remarks on the staffing situation should therefore in no sense be taken as a criticism of the contributions made by the staff. On the contrary, the relatively high efficiency of the Institute must in itself be taken as a strong argument for supporting any initiative to increase its competence and the quality of its contribution to education development in Ethiopia. [2]

The Science Education Panel.

The panel currently comprises 5 staff members, including the panel head who is this year studying in the UK - one specialist in chemistry (BSc), two in Physics (both B.Sc.), and one in Biology (M.Sc.). The fifth staff member is originally a laboratory technician with a

[2] The following brief presentation of the staffing situation and traditions existing in the various panels at the ICDR draw upon discussions with the panels themselves. The author is well aware that details may be wrong or misunderstood and that relevant information may often be missing.

College Diploma (12+2). In addition, there are 3 vacancies, in Chemistry, Physics and Biology. One secretary typist is linked to the panel. The panel members all have a background in secondary education, and one also as an instructor at a teacher training institute. Professional experience ranges between 18 and 25 years.

Important backgrounds for curriculum development at primary level have been a training programme in collaboration with Kenya in the 80s, including a 3 months' stay in Nairobi for some panel members, regional workshops in Science education arranged by UNESCO at the end of the 80s (this was when the new conception of Science and Technology was introduced), and linkages to the SEPA (Science Education Programme for Africa) in the 80s. The panel has not had conditions for developing its proper research, even though panel members collaborate with the Evaluation and Research Division in various studies. Panel members also undertake some research as consultants in various specific programmes, for example in Health education.

Feed back for curriculum development from teaching is obtained through the evaluations made by some of the regions and that are normally sent to the panel. Teachers also come to the panel in order to discuss aspects of the syllabi. Even though plans have been to make regular visits schools in order to collect information on Science teaching, time and material conditions have not allowed such visits during the last years. Although the panel has not been directly involved in the development of the instruments for the formative evaluation, individual panel members have participated in evaluation teams.

One of the major problems challenging the panel is the unbalance between responsibilities and staff resources. Since the panel is charged with the responsibility for the development of teaching materials for secondary education, in addition to its responsibility for the national syllabi for basic education, there is little time left for engaging in other activities, such as school visits or small studies. It is hoped that the situation will improve when the vacancies are filled and the panel head returns.

The Mathematics panel

The Mathematics panel comprises 3 full time staff members, one with a BSc and a MEd diploma, one with a BSc, and one with a M.Sc. (the panel head), and one secretary. The professional background of all panel members include secondary school teaching, and in the case of the panel head a long career that also covers teaching at college-level and in technical schools. Professional experience ranges between 14 and 21 years. Other backgrounds for curriculum development at primary level include shorter visits to England in Maths education and a 4-months' stay in Israel in the same area in the beginning of the 90s. Curriculum

development for primary education is also based on the study of curriculum materials from other countries. Conditions have not permitted the panel to develop its own research. The panel has applied for a full-time consultant specialist in this area, funded by the Japanese government. A plan has also been developed for a research study of the regionally produced teaching materials. Plans have also been made for more regular school visits in order to assess primary teaching in Mathematics. Panel members else visit school in the context of the formative evaluation.

The panel head emphasises the problem represented by the small staff. The panel is also responsible for the development of curricula and teaching materials for secondary education and for the teacher training system. If time permitted, the panel would immediately extend its activities to cover more areas relevant to curriculum development in primary education. Transport and financial constraints at the Institute also make it difficult for the panel to easily engage in such activities.

The Language panel

The ICDR language panel comprises 4 national experts, 2 of whom cover national languages (Amharic and other languages), 1 is responsible for English and 1 is the panel head. Except for the English language expert, who has a MA in languages, all holds BA exams. In addition, the panel is currently reinforced by 2 expatriates experts in English education, funded by the British council. The professional experience varies from 12 to 28 years. For 3 of the staff members, the long professional careers include, among other things, experience as primary or elementary school teachers. In relation to basic education, the panel is charged with the responsibility for the curriculum and teaching materials envisaged by the introduction of Amharic in all schools from grade 3 onwards, but also for the syllabi for Amharic as mother tongue. In several of the regions where Amharic is used as a means of instruction from grade 1, the panel has assisted in the development of teaching materials. For the subject of English, the panel develops both syllabi and teaching materials for basic education. Further, the panel is engaged in the development of language curricula and materials for teacher training in English and Amharic. In addition to these responsibilities, the panel is charged with the task of developing language curricula and materials for secondary education in the same languages.

In recent years, the panel has not had sufficient time to engage in class room observation or research in the area of primary language teaching, although such efforts have been made in relation to secondary level language teaching. Last year Amharic teaching was observed in secondary schools in 9 regions and English lessons were studied at secondary level in a

number of schools in Addis Ababa. It is acknowledged by the panel members that much is left to be desired as concerns insights into primary language teaching, but that present conditions in terms of staff and other resources, given the responsibilities of the panel, do not allow such experiences to be gained. Since the development of teaching materials is now a regional affair, the panel naturally would have to concentrate efforts on secondary language teaching.

The Social science panel

Unfortunately, no discussions were held with this panel, which occupies a perhaps particularly interesting position in curriculum development for basic education, since social studies is the subject where regional claims to define content are especially strong. The panel comprises four experts, all with BA diplomas and specialised in Philosophy (1), Geography (2) and History (1), representing the subject areas of Geography, History and Civic education. The professional experience varies between 9 and 29 years.

The Technical, Vocational and Teacher Education Curriculum Development Co-ordination

This unit comprises 4 panels - Technical and vocational curriculum development. Special education curriculum development, Teacher education curriculum development and Adult education curriculum development. Given the scope of its responsibilities, the current staffing situation is inadequate.

The Technical and Vocational Education Curriculum Panel, which among other things is developing the new curricula for the vocational education planned to be an important complement to general education, should comprise 12 staff members, but currently only holds 5, two with a BA exam and 3 at diploma level (12+2). The special education panel have 2 vacancies and currently employ 3 staff members (2 BAs and 1 diploma). The Teacher education panel should count 8 staff members, but only has half, 1 at MA-level and 3 with BA diplomas. All in all only 2 staff members have specialised training in curriculum development.

The Teacher education panel has recently launched new syllabi for the Teacher's Training Institutes, that train 12+1 teachers for the basic education system. In this curriculum development, collaboration is close with the academic panels for the various subjects. These curricula also include vocational subjects such as home economics and craftsmanship. Teaching materials are however produced at the regional level, with the exception of English materials that are developed at the ICDR. These new curricula are, however, transitional.

When the current curriculum reform has reached grade 10, plans are that the ICDR will develop a new 12+2 curriculum for TTIs, thus abolishing the current 10+1 training programme.

Because of the recent organisational transformations of the ICDR and the instability that currently characterises the staffing situation at the unit for co-ordination of curriculum development for technical and vocational education, resources have not permitted regular contacts with TTIs or studies that may be relevant to curriculum development tasks. Neither is the unit directly engaged in in-service training programmes related to the curriculum reform at primary level. This is currently not the mandate of the unit.

The Curriculum Evaluation and Educational Research Co-ordination

This division at the ICDR has played an important role in providing knowledge of the education system that serves as background for the reform policy. During the last 5 years, the unit has produced a number of studies on for example gender aspects of text books, female participation in rural primary schools, health education or the readability of text books, some of which have been funded by Sida. Since the Curriculum Evaluation panel has a main responsibility for the formative evaluation, staff members are also normally heavily used in this context. The division currently comprises a total of 10 staff members, 6 of whom hold a BA-exam and 4 a MA diploma. Most staff have extensive experience from the education system and have during the years been engaged in various kinds of studies and applied developmental activities such as curriculum design. Staff members have also frequently been used as consultants in various kinds of studies undertaken by the Ministry of Education or, more recently, to some extent by the regional education bureaux.

Space does not allow a review of the research studies published in recent years by researchers at this unit. It should however be observed that these studies seems to be well-designed and address relevant issues, and further, that most or possibly all initiated studies also have been finalised in reports. However, with few exceptions the studies indicate that the authors are, above all, generalists. None of the studies is firmly rooted in the specific research traditions that nowadays nurture development work in applied areas such as language, maths or science education, and does neither pretend to contribute to the international discussion in such areas (indicators would for example be references to other such recent research). In some of the studies referred to there is also a tendency to over-use formalised, survey-styled methods, for example extensive use of formalised questionnaires, even when these methods may seem less appropriate. Both these limitations are particularly visible in the design of the

formative evaluation, which plays such a crucial role in the curriculum reform for basic education.

The point to be made here is that although the division for evaluation and research by all evidence is staffed with experienced and highly professional experts - who also know the difficult art of writing readable reports - this is not enough for feeding the curriculum reform with adequate knowledge on the specifics of teaching and learning processes in the various areas of primary education. There is no sign of continuous accumulation of systematic knowledge related to such issues, and there is no evidence of accumulated experience of what scientific tools or conceptual traditions would be most appropriate for creating such knowledge. This, then, is a strong argument for integrating research and evaluation with curriculum development. Such an integration must necessarily be made at individual level, since what is required is a gradually expanding awareness of the complexity of teaching and learning processes in various areas and of the nature of the instruments needed for unveiling this complexity. Such competence is most likely to rise when the necessities of "applied" activities such as curriculum development or the search for functional teaching methods meet with the traditions accumulated in the world of research. It is for example difficult to perform educational measurement without proper training in the specific traditions in this area, to approach the problems of language education at high professional level without having access to proper linguistic traditions, or to be aware of obstacles to a fruitful science teaching without participating in the international discussion on such matters.

Material resources and equipment

A few words should finally be said on the material conditions for the functioning of the ICDR. For a foreign visitor, it is to some extent surprising that such a big and obviously efficient institution is not better equipped for the tasks it fulfils. Computers - that would multiply the efficiency of the Institute at low costs - are scarce. Most staff at ICDR do daily writing, which turns into a time-consuming task when appropriate and low-priced modern technology is not used. Further, copying or printing facilities are far to weak to respond to necessities. By the nature of the Institute's work, there are often necessities of multiplying documents of various kinds in not too many copies - drafts, manuscripts or reports. Since the Institute does not possess at least one modern heavy-duty copier, difficult delays are regular. Weeks may sometimes be spent waiting for a small number of copies to be printed of try-out materials designed for a certain region or context. Further, transport facilities are such that the Institute cannot without heavy constraints engage in activities that should be part of its regular activities in curriculum development, such as school visits, small pilot projects

monitored together with the regional bureaux or with the TTIs, or small research studies. Perhaps such necessities should in particular be considered by donor agencies that wish the Institute to give a high-quality input into the current educational reform. It would probably be cost-effective to provide improved material conditions for an institution that by all evidence would make efficient use of such support.

2.4. CONCLUSIONS

Staff requirements at the ICDR

As shown in the organisation chart for the Institute, the ICDR is divided into three main units, charged with the responsibility for curriculum development, for evaluation and research, and for technical and vocational training. One particularly crucial aspect of this division of labour and competencies is that curriculum development is organisationally separated from educational research. The curriculum panels, that are responsible for curriculum development as such, have neither time or resources, nor a mandate to engage in research in their specific areas. The evaluation and research division, on the other hand, comprises generalists who - notwithstanding their often high level of competence as such - have little specific competencies in areas such as linguistics and language education, mathematics education, science education or educational assessment and measurement. There are no linguists who specialise in addressing linguistic aspects of curricula, classroom interaction or educational measurement, and no one has invested several years in research and developmental work in mathematics or science education. As a result, no specific research traditions are kept alive that are proper for and can nourish applied activities in the key areas of primary education. The academic panels, on the other hand, have had few or no possibilities to engage in studies that would enable them to identify and interpret problems of teaching and learning in their area of specialisation. Neither have they been given the necessary conditions for accompanying the implementation of the current curriculum reform through extensive school visits or even through close collaboration with the regional bureaux. Further, the conceptualisation of the problems of primary teaching has not been systematically formed and nurtured by research traditions and by the debate on these issues that can be found in the African and international community. As an effect, the panels only to a limited extent share the African and international experiences from development in their respective areas. International networking has been scarce and irregular. The impression is that Ethiopia in this respect currently stands behind the more advanced institutional environments in Africa, such as the ones to be found in countries like South Africa, Botswana

or Zimbabwe. If curriculum development for primary education in the academic panels at the ICDR still holds reasonable quality, in spite of its weaknesses, this is probably because several of the key staff members in the panels possess a long experience from education and often have a highly professional commitment to their work.

In addition to the absence of proper input from educational research related to primary education, another factor that negatively affects curriculum development at this level should be emphasised. Even if many staff members in the panels are fairly experienced in their work, very few of them have any background in primary education. In fact, virtually all staff members come from or have passed through secondary education in their professional careers. This may well be one of the explanations for the somewhat academic, subject-oriented perception of primary education that is one of the most problematic aspects of the Ethiopian curriculum reform.

In order for the ICDR to face the challenges of curriculum development for basic education, staff at the institute would benefit from participating in a capacity building programme of the kind outlined at the end of chapter 7 of this report, comprising research and applied activities, as well as international networking and possibly, for a number of staff members, a specially designed academic programme at Master's level. A capacity building programme of this kind would need to be organised in collaboration with at least a number of regional bureaux and with these bureaux as equal stakeholders. Given the generally high professional and academic level of the ICDR staff, there are good chances that such a programme would be used in a fruitful way. The Institute would also need to be supported professionally by one or several foreign institutions able to provide experienced experts at high professional level in the key areas indicated above, i.e. language, mathematics, science and social sciences education, curriculum development and educational assessment and measurement. Such professional support would include components of international networking. Considering the relatively high professional level of the ICDR there is no need for full-time technical assistance, but rather for an *institutional collaboration* with one or several sister-institutions that can provide both specialists who regularly visit Ethiopia in order to work with subject-oriented research and curriculum development groups, and when there is a need assist the Institute in other ways.

However, such an investment would only make sense if the Ministry of Education is willing to assign an important future role to the ICDR in curriculum reform for basic education. Such a role would not mean altering the fact that the main responsibility for basic education lies with the regions, but rather that the ICDR assumes a more competent and active role in preparing for national syllabi, in bridging regional and international experiences and in supporting weak regions in their curriculum development work. If the political

understanding of ICDR's position does not permit such a role and if there is no particular will at the ICDR itself to assume a somewhat new professional role in basic education, it would not make much sense to invest in capacity building in this area at the Institute. Attempts to strengthen capacity for curriculum development in basic education and related activities would then need to be focused solely on the regional bureaux.

3. THE ROLE OF THE REGIONAL EDUCATION BUREAUX IN CURRICULUM REFORM.

Once the syllabi developed at the ICDR have been discussed at the are endorsed, the responsibility for their implementation and materialisation in teaching materials and teacher in-service training lies with the regional bureaux. Given the framework set by the national curricula, all major decisions related to the implementation of the reform are taken at regional level. Basic education, then, is primarily a regional affair. During the last years, the regional education bureaux have done their best to build up their own curriculum and research departments. These departments are responsible for the development of regionally produced teaching materials. As we shall, the conditions for this enterprise have been far more favourable in strong regions than in weaker ones. The following account of curriculum development at regional level is based on visits to 4 regions and on extensive discussions with education officers in these regions.

3.1. THE AFAR REGIONAL NATIONAL STATE (REGION 2)[3]

The Afar region is situated in the east corner of Ethiopia, bordering Eritrea and Djibotu in the north and east, Somali and Oromia regions in the south and Amhara and Tigray regions in the west. The education bureau estimates the original Afar population to be around 3 million people, although this figure is contested by other informants who would estimate it to be between 1 and 1 1/2 million. According to the bureau, 95% of the Afar population is nomadic. The majority of this population is not reached by formal schooling, since nomad families would not accept settling down in order for their children to get access to school. The small school population is dominated by non-Afar pupils, living in the small towns or urban centres. The region is divided into 5 zones and 28 woredas, holding 60 primary, 8 junior secondary and 3 senior secondary schools, enrolling a total of only 15 000 in grades 1 to 6, one third of whom are of Afar origin. According to the bureau, 99 percent of all teachers are of non-Afar origin, which reflects the fact that so few Afar children are being educated. In order to offer educational opportunities to the Afar, nomad population, the education bureau sees boarding schools as the most accurate solution. Mobile schools are seen as less realistic, among other things because teacher would be difficult to recruit.

[3] In Afar, extensive discussions were held with the Bureau head, Mohammed Osman, with the head of the Curriculum development and research department, Ahmed Mohammed, with Wassenu Yiman, educational research expert, with Tensay Wale, curricukum expert, and with Sadik Hassen, statistician.

Afarigna is taught from grade 1 as a subject for all pupils, regardless of their mother tongue, and as the curriculum reform is implemented students aquifer early literacy skills only in this language. In addition, social sciences are taught in Afarigna, whereas Amharic is used for mathematics and science. These incongruities obviously creates a somewhat strange situation, since pupils do not aquifer systematic literacy skills in the language used as means of instruction for two of the major subjects. For the majority of pupils who are not Afarigna-speaking, is obviously also difficult to aquifer literacy skills in this language, and particularly so since the few Afarigna teachers who are available keep a seriously low academic level (often grade 5) and have received no training. In addition, the text book for grade 1 teaching of Afarigna seems to be devoid of pedagogical value and merely consists of lists of sounds, almost like an orthography. As a result, it was reported that non-Afar families tried to avoid the pilot schools in order to postpone the day when their children would have to be taught literacy skills in Afarigna.

These incongruities may be seen as a temporary price that would have to be paid for decentralisation, but they also testify to the weaknesses in human resources that seriously constrain the work of the regional education bureau. With the exception of the bureau head, the bureau is almost totally dependant on the work of a number of experts of non-Afar origin with the necessary academic level and experience. Out of 16 full staff members at the Curriculum development and research department, only 2, both coming from other regions, hold a BA degree. The head of department has finished grade 11, responsibility for the area of mathematics lies with a former student who has yet not finished grade 6, the Science panel comprises 3 staff members who have not completed grade 8, the subject of Afarigna is taken care of by 2 staff members with less than grade 8, and responsibility for Social sciences stand with 1 staff member who also has not finalised grade 8. The bureau head, with a 12+2 exam and long experience in the education system, says that the regional council on his proposal has accepted to recruit more qualified staff of Afar-origin to the bureau and also has acknowledge the need for more qualified staff of non-Afar origin. The long-term objective of producing a new Afar administrative elite can only be achieved through accepting the current shortages in terms of manpower.

Teaching materials for grades 1 and 5 were written by staff from the Bureau with close assistance from the ICDR. For the implementation of the new syllabi for grades 1 and 5, ,the bureau carried through a 4 days introductory workshop in the pilot schools, but up to the present no plans have been made for the introduction of the new materials for grades 2 and 6 because of shortages in funding and manpower. Zone bureaux are said to be very poorly staffed, and woreda bureaux still do not exist. The bureau head has given priority to the development of a programme for training of unqualified teachers in Afarigna, but funding has

still not been provided for this initiative. The shortage of Afarigna teachers is so big that the subject probably cannot be taught outside the pilot schools. In one of the visited schools try-out schools, the primary school in Dubti, the principal informed that there were no teachers available at all for teaching Afarigna and social studies in grades 2 and 6 this year.

The two visited primary schools, Ewketchora in Aseita and Dubti, were both in deplorable physical shape, with over-crowded class rooms - 113 in one of the visited grade 1 sections in Ewketchora - and scarce material resources. According to the information from the bureau, the badly staffed and badly equipped zone bureaux cannot keep in contact with the schools in their area. This also holds for the regional bureau itself, which do not have the means for keeping in regular contact with the zone bureaux or with the pilot schools.

Conclusion

It seems obvious that donors at some point must assist the Ministry of Education and the regional bureau in seriously addressing the educational needs of the Afar region. Such support must be coherent and address most aspects of educational development. It would have to include the construction and professional support to boarding schools in order to provide educational opportunities to the disadvantaged Afar population. Prior to such support, a sociological study would probably have to be carried trough on the educational strategies and needs of the nomadic population. In the meanwhile, scholarships or other measures could be taken in order to see to that the Afar students that currently study in the education system are not lost. Support could also be given to the already existing plan for training of teachers in Afarigna. There is also an urgent need to address curriculum-related aspects of primary education. Pedagogically sound teaching materials in Afarigna must be developed and the current confusing situation as regards the teaching of literacy skills addressed. Support to the region must be seen in a long-term perspective, since it would basically have to assist the region in creating its own administrative elite. In some years to come, donor support would therefore also have to address the question of secondary and vocational training, including teacher training. Such a coherent support to the education sector in the region would have the chance of attaining substantial results in short time, since the current state of education is particularly distressing.

3.2. THE AMHARA REGIONAL NATIONAL STATE (REGION 3)[4]

The Amhara Regional National State, Region 3, represents one of the extremes in the Ethiopian educational landscape. The region holds no less than 2504 primary schools, enrolling 480 000 pupils in grades 1 to 6 and employing 18 600 primary school teachers. It has 228 junior secondary schools (grades 7-8 in the education system now under change), with 64 000 pupils and 2250 teachers, and 76 secondary schools containing 70 000 students and almost 2200 high-school teachers. Moreover, the region hosts 3 teacher training institutes (TTIs) for primary education, 1 Teacher Training College for secondary education (diploma level), 1 Health College and 1 Polytechnic Institute giving a 2 years post-secondary technical and vocational training. As a consequence, the Regional Education Bureau, which in itself benefit from a well-educated staff in comparison with many other regions, through these higher institutions has access to expertise that can be used for the implementation of the curriculum reform. The regional bureau itself gives also an impression to be well-organised and effective, with a planning and implementing capacity that probably exceeds the average.

Culturally, the region also seems to be considerably less complex than many other regions. Even though poverty is wide-spread in rural areas and life-conditions often do not favour educational investment, the population is by large culturally and linguistically homogenous. Perhaps it is not by accident that the region, given its relative cultural unity, has had no difficulty in recognising the right of its minority groups in the south and west to make educational use of their respective languages. Oromigna is already used as a medium of instruction in areas where this language is dominating, using teaching materials produced by the neighbouring Oromia National State, and plans are that the second minority language group, the Agawigna- (or Hamtaigna-) speaking population should be given the same right.

Human resources at the Curriculum and Research Department

The Amhara regional Curriculum Department is relatively well off in terms of trained staff. First of all, the head of department has an MA in Pedagogy and extensive experience in education, among other things as an instructor at the BaharDar Teacher Training College, and the head of the Pedagogical Centre an MA in Curriculum development. In the Language Panel, 1 staff member with a BA in Ethiopian languages is responsible for Amharic, 1 staff with an MA in linguistics is in charge for nationality languages, such as Oromigna, which is spoken and also used as means of instruction in parts of the region. All panel members have a

[4] In Amhara region, a long discussion was held with the head of the Curriculum development and research department, Melese Bedanie. Further, the co-ordinator of the Science panel, Haileluel Tefera and the co-ordinator of the peadgogical centre at the regional bureau, Yielma Tirsite.

background in secondary school teaching. The Mathematics Panel contains 1 staff with a BSc in Mathematics, who is also a former TTI instructor. In Science, the panel comprises 1 specialist for Biology with a BSc and 1 specialist in Physics with the same diploma. A panel member representing Chemistry remains to be identified. Both the existing panel staff have a background in secondary teaching. The panel for Social Sciences has currently only 1 staff, a former high-school teacher with a BA in Geography. An additional staff member for History will be identified. In Music, responsibility lies with 1 staff member with a diploma from the School of Music in Addis Ababa and a background as primary school teacher. A similar situation is to be found in the Arts panel, which consist of 1 former primary teacher with a diploma from the School of Arts. Responsibility for Physical Education, finally, lies with a former high-school teacher with a BA in Physical Education. In addition to the panels, the regional bureau has taken initiative to a probably unique regional educational research network, monitored by the Evaluation and Research Unit at the Bureau and a by a steering committee (see below). The Evaluation and Research Unit currently comprises 1 staff member with a BA in languages who also is active in the language panel. In future, it is envisaged that the unit will have 3 staff members.

Regional curriculum development

In the case of the Amhara Regional Bureau, curriculum development follows rather closely the ideal set up by the policy for the current curriculum reform. First the draft version of the new syllabi for each subject is analysed and discussed at the regional level by the panel experts and other local resource persons. Staff members then participate in the ICDR workshop on the draft versions of the syllabi and contribute to the revisions that are made. Once the revised version of the syllabi are endorsed, the Bureau panels commission regionally available text book writers in the various subjects. The teaching materials, which are worked out in collaboration with the panels, are then sent to 15 pilot schools for the experimental year, but also to the TTIs and colleges in the region, as well as the zone and woreda bureaux, the teacher organisation, health institutions and women's organisation. These institutions and organisations are then invited to comment on the materials. The most important feed-back is however given by the content analysis of the materials, in which various regionally available specialists participate. The region also participates in the formative evaluation of the try-out materials monitored by the ICDR, even though the Bureau is sceptical as to the adequacy of this evaluation. Because of lack of resources, the Bureau has so far however not been able to do its own assessment of the curriculum reform and teaching materials.

The regional educational research network

In order to encourage a research-oriented attitude to the problems facing education in the region, the Regional Education Bureau has taken the initiative to create a regional research network. At both regional, zone and woreda levels - and in the future also at school level - at least one person is designed to organise and stimulate research activities that are adequate for the local schools and communities. Most staff have double roles, in as far as they normally also are entrusted with other responsibilities. The network is monitored by a steering committee, comprising the Bureau itself, the BaharDar Teacher Training College, the Health Institute and the Polytechnic Institute. Plans are that research activities should result in annual publications made together with Addis Ababa University.

In-service training

Among the regions in which visits were made for this study, the Amhara Region was probably the one that had managed to organise most in-service training activities in relation to the curriculum reform. When the teaching materials for grades 1 and 5 had been finalised and when regional staff had participated in the ICDR workshops, the Bureau organised a 5 days-workshop at regional level for 5 representatives from each one of the 10 zone bureaux, using experts and resource person both from the local and national levels. Participants from the zone level were inspectors and selected teachers, as well as education co-ordinators, co-ordinators for the zone pedagogical centres and members of the zone research committees. In the following step, all zone bureaux arranged 5 day workshops for selected teachers, principals and educationalists from the woreda education bureaux. Finally the woreda bureaux completed similar workshops with at least a few teachers from each school. Even if the content and quality of these activities cannot be evaluated here, due to lack of any such information, it is worthwhile noting the relatively high organisational level of the Bureau in this respect. It is also noteworthy, however, that even if TTI instructors are involved as individuals in these training activities and even if the TTIs are being used as a resource base for getting commentaries on the teaching materials, the teacher training institutes are not as institutions part of a coherent plan for continuous teacher in-service training in relation to the curriculum reform.

Educational evaluation and assessment

As was previously observed, the only feed back from the try-out year or from teaching in general comes from the formative evaluation. The most valuable component in this evaluation has been the content-analysis, which contributed substantially to the revision and

improvement of the teaching materials in grades 1 and 5. However, the bureau does not possess any other more systematically collected information on teaching and learning problems.

Other quality-related aspects of curriculum development

The short school visit made to a pilot school in the outskirts of BaharDar gave the impression that even if school management as such was commendable and teaching in the try-out classes was somewhat better than in normal classes, teaching had not substantially improved because of the curriculum reform. Big classes, teachers without adequate preparation, pupils whose level *de facto* does not correspond to the standard and teaching materials that describe a teaching situation that does not exist in reality - all factors tend to favour a non-communicative teaching where a majority of the pupils are left behind. The Curriculum Department also emphasised the fact that teachers seldom have the methodological approach demanded by the new curricula, and acknowledge that the teaching materials were not based on any solid experience of what could be functional in the classroom. More teacher in-service training would be needed, as well as professional competence at the regional level that could lead to better teaching materials and better in-put into in-service training. Conclusions should however not be drawn on the basis of one single school visit of some hours' duration, even if the visited school benefited from its proximity to the Bureau and the city of BaharDar. According to the formative evaluation of the experimental year for grades 1 and 5 in the Amhara region parents often comment that pupils in the pilot schools learn more, are more active and ask more questions related to subject matters taught in school. This may be a sign that teaching after all to some extent has been positively effected by the reform.

Except for some areas, the region faces a mono-linguistic teaching situation that undoubtedly would encourage a more communicative, pupil-centred teaching, if teaching materials were more adequate and appropriate support given to the teachers.

It was observed by the Curriculum Department that the existing Science Kit does not fit well with the new syllabi and that few teachers make appropriate use of the kit because of lack of in-service training. On the other, the Department is convinced that an improved Science Kit would be necessary for encouraging teachers and promote learning in Science and Technology and were radically opposed to any plans of stopping the production of the kits.

Support from other donors

Amhara region benefits from support from Finnida. In this support priority has been given to improvement of management at the regional, zone and woreda bureaux, as well as in schools. An important target group has been head teachers, i.e. principals. Training has mostly taken the form of workshops. Funding has also been provided for the writing of teaching materials and for in-service training activities in relation to the implementation of these materials. The Finnish support will continue.

Needs identified by the Curriculum Department

It is the responsibility of the Curriculum Department to make curriculum materials for basic education, for technical and vocational training, including the teacher training institutes, and for non-formal education. Since Finnida is already providing sufficient funding for curriculum development as such, i.e. commissioned writers, the content analysis and regional, zone and woreda workshops, there is no specific need for support for this kind of activities, at least not as they are currently done. However, the Department recognises that there is a need for more professional and technical input into the curriculum development process, through more specialised subject-specific research, pedagogical pilot projects and educational assessment (see below). Except for a possible Sida-support in this latter respect, the Department emphasises the following needs:

a) 7 million Brr are needed next year to print the teaching materials for Grades 2 and 6; these are currently missing. Providing the necessary funds could be an intervention for Sida support.
b) The region lacks teaching materials and tools for the newly introduced vocational training for primary and secondary school drop outs (agriculture, home economics,, business and handicraft). Moreover, teachers need training. All these components could be supported by Sida.
c) The region does not have trained teachers for non-formal education. This could be a target for Sida support.
d) There is an urgent need for in-service training of secondary school teachers, made both at central and at regional levels. This could be a fourth intervention from Sida.

In the discussion of the implementation of the curriculum reform, the Curriculum Department also emphasised the need for technical assistance and staff training for

addressing quality-related aspects of the teaching- and learning process and of the curriculum materials. Teaching materials are made without much knowledge of the cultural and linguistic conditions for teaching or about the class room context in which they are going to be used. Further, the Bureau does not possess sufficient resources and competence to engage in adequate educational assessment that could inform the revision of teaching materials and the teacher pre- and in-service training system. Text book writers and staff at the Department also need a much more practice-oriented, hands-on training for text-book writing than the ICDR has been able to provide. The ICDR workshops were criticised for being far too theoretical in their approach and for not giving the relevant instruments for adapting the national curricula to the regional realities. The Department therefore had a very positive attitude towards a possible future involvement in a national capacity building programme designed to address such qualitative questions. It was also felt that the collaboration with ICDR, and other regional bureaux, within the framework of such a programme could be particularly fruitful, since the central institution thus would gain more experience of region-specific education problems and also of working with the Bureau in a new and more productive way.

Conclusions

The Amhara regional education bureau is relatively well-organised, effective and well-staffed. In order to improve the quality of primary teaching and to more successfully implement the curriculum reform, the Curriculum department would, however, need more professional assistance and training of existing staff. The quality of the teaching materials would probably have to improve substantially if durable results are to be achieved (see the analysis of curriculum materials below). The region would also need to develop a more convincing strategy for teacher in-service training in relation to the reform. The in-service training capacity seems to be insignificant, in spite of the fact that the region effectively has arranged workshops at various levels in relation to the introduction of new materials.

There is no doubt that the other needs identified by the Curriculum Department are real - i.e. funding for the printing of text books, for teaching materials and preparation of teachers for vocational training, for training of teachers for non-formal education and for in-service training of secondary school teachers. However, funding priorities of this kind must be considered in relation to the needs of other regions and in particular the weak ones (see discussion under "Final recommendations" below).

Since the Amhara Regional Education Bureau is very positive to collaboration in a possible future Sida-funded capacity building programme related to curriculum development

and educational research, and involving both ICDR, a number of regional bureaux and TTIs, the region should be a strong candidate for support in such a context. The commendable initiative to create a regional network for educational research, sponsored by Finnida, would also strengthen the regions capacity for making fruitful use of such a professional input. The fact that the regional bureau and the Curriculum Department is comparatively strong in terms of staff resources, also constitutes a guarantee in this respect.

3.3. THE OROMIA REGIONAL NATIONAL STATE (REGION 4)[5]

Being the largest and the most populated region, Oromia counts, according to the Regional Education Bureau, an estimated population of between 20 and 30 million, distributed over 12 zones and roughly 225 woredas. In 1994/95, 819 000 children were enrolled in primary education (grades 1 to 6) in 3600 schools, being taught by slightly more than 30 000 teachers. Non-Oromo minority groups are found in several parts of the region, but tend from historical reasons to be concentrated in urban areas.

While Oromigna is normally used as the language of instructions, provisions for using other languages, mainly Amharic, are made in most bilingual areas. Amharic teaching materials are usually taken from region 3 or 14. The Bureau has opted for a later introduction of Amharic as a national language than what is foreseen in the national curricula (grade 5 instead of grade 3). According to the Curriculum development department, Oromigna could be used also for secondary education, if authorised, and teaching materials for the TTIs are now starting to be produced in the regional language. So far, books in Pedagogy and Psychology have been developed, while materials for other subjects still are translations.

The region has a severe shortage of teachers, instructors and curriculum developers in music, arts and sports, because of the historical inaccessibility of these areas for students of Oromo origin, but is fairly well-provided in social and natural sciences. In Language education, the Curriculum department employs 3 full-time staff, 1 for the Oromo language, 1 for Amharic and 1 for English, all with BA diplomas. The Social science panel comprises 4 staff members, 1 with a MA degree in History, 2 with BA degrees in the same discipline, and 1 with a BA in Geography. In Arts, the department has 1 staff, with a graduate exam from the Arts School, in Music 1 qualified musician and 1 TTI graduate, and in Physical education 1 graduate from a Teacher Training College. The Science and Mathematics panel counts 4

[5] In Oromo Region, interviews were made with the head of the Curriculum development and research department, Negassa Ejete, with Challa Negassa, head of the Science panel, and with Mosise Kenei, responsible for curriculum development in Mathematics. Further, repeated discussions were held with Berhanu Dibaba, head of the research unit, and his collegue Alemu Hailu.

regular staff members, 2 with MSc degrees in Chemistry and Biology and 2 with a BSc exam in Mathematics and Physics. Few staff have extensive personal experience from primary education.

The department works on a regular basis with a small number of commissioned writers, most of whom work as high-school teachers. According to the head of department, there are several serious constraints for curriculum development in primary education. In general, staff lack proper training, for example in curriculum development, and do not possess solid methodological or pedagogical experience from primary teaching. Primary education tend to be approach on the basis of models from secondary education. Further, the input from and the frames given by the ICDR are often too academic and irrelevant for the concrete tasks to be undertaken by the department in developing teaching materials or designing in-service training programmes.

The most immediate needs in relation to curriculum development at regional level would be the training of staff members in appropriate areas, such as curriculum development, primary education methodology, research in language, mathematics and science education, educational assessment. Further, the curriculum department would need to create a more fruitful environment for its work, including a small library with useful reference books and the means to make more regular school visits. This would include better and less time-consuming equipment for writing, revising and copying the materials. Currently, much energy and time is spent because of the shortage of computers or adequate printing facilities.

Conclusion

Much as the Curriculum development department at the Amhara regional education bureau, the Oromo curriculum development department is relatively well-staffed in relation to weaker regions. A number of experienced and well-educated staff provide minimum conditions for a professional stability. However, adequate specific training and adequate experiences from primary teaching are lacking, as are adequate material conditions for the development of curriculum materials. Given the size of the region, the department would also need more staff and better conditions for keeping regular contacts with school realities outside of the capital.

3.4. THE BENISHANGUL-GUMUZ REGIONAL NATIONAL STATE (REGION 6)[6]

The recently named Benishangul-Gumuz National State represents one of the extremes in the Ethiopian educational landscape. The diversity of its languages and populations, its remoteness from the national centre and its scarcity of human and material resources contrast to the situation of for example Oromia, Amhara, Tigray or Addis Ababa. As for the complexity of its linguistic and populational situation, Benishangul-Gumuz resembles regions like Gambella or the Southern region. As for its scarce resources and its general feeling of being a "forgotten" region, it has much in common with Afar and Gambella.

Since the region needs to address a complex educational situation having few material and human resources to do so, there seems to be no evident solution to the short-term and long-term problems the education bureau is challenged with. The region has 182 primary schools and 3 secondary ones, spread in 3 zones (Assosa in the centre and south, bordering Sudan in the west and Oromia in the east and south, Metekel in the north bordering Sudan and the Amhara state, and Kamashi in the east bordering Oromia) and 14 woredas[7]. These schools enrol approximately 37000 pupils in primary education, 1500 in junior secondary and 1100 in senior secondary. In the national census of 1994, the over all population was estimated to be only 800.000, but it is widely recognised that this figure should be three or possibly four times as high.[8]

This situation may call for building more schools, and especially so in remote areas far from the few bigger roads. According to the REB there is in many woredas a strong popular demand for public education. Local communities even build schools themselves, hoping that the Bureau will provide teachers and school materials. On the other hand, the public governmental school also seems to be contested. Enrolment rates and an estimation of the pupil/teacher ratio indicate that the demand for public education is far from being evident throughout all rural areas. The emergence of Arabic schools testify to a mistrust of what public education can offer.

In fact, the demand for primary education is a multi-dimensional issue, involving such aspects as the varying relationship between the different population groups, on the one hand, and the dominating languages used for communication (Arabic, Amharic and Oromigna) on

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[6] In Benishangul-Gumuz, discussions were held with the head of the Education Bureau, with the head of the Curriculum development and research department, Issa Hassan, with the head of the Social sciences panel and co-ordinator of the regional Pedagogical centre, Takele Musisa, and with Genene Esayas, expert at the Planning department.

[7] In addition, the woreda of Begi in the very south of Assosa zone has been given a special status, since Oromia and Benishangul-Gumuz sill dispute to which state this area should pertain.

[8] According to the REB, German GDZ made a demographic estimation of the population in 1994 that estimated its size to be approximately 3.1 million people.

the other, the geographical localisation of various groups, their religious affections as well as their economic and professional activities.

The five original nationalities of the region - the Benishanguls (or Bertas) in the Assosa zone bordering Sudan in the west and Oromia in the south and east, the Gumuz, mainly spread in the northern Metekel zone along the Sudanese border and in the eastern Kamashi zone neighbouring Oromia, the Maos and Komos, mainly living in Assosa zone but somewhat distant from the Sudanese border, and the Shinoshas, mainly concentrated in the centre of Metekel zone in the north - all have their own language, none of which has a developed orthography. Often engaging in trade pertaining to Arab commercial networks in the Sudan and often being Muslim, many Berta families apparently regard Arabic as a natural choice of second-language and a worthwhile educational investment. Arabic is widely used both in the capital of Assosa and in the surrounding rural areas as a means of communication between the members of different nationalities, and Arabic primary schools[9] have recently emerged both in Assosa and in rural areas, even though there is no Arabic secondary school. The interest for Arabic is also shared by the Gumuz living along the Sudanese border in northern Metekel, whereas Gumuz in Komashi, being Christian and economically rather interlinked with Oromia, apparently tend to be opposed to the educational use of Arabic and favourable to Amharic or Oromigna. The preference for Oromigna seems to be shared by many of the Maos and Komos, living mostly in the southern part of the region, whereas the Shinozas, concentrated in the north tend to favour Amharic, probably because their proximity to the Amhara region and to the Amharic-speaking groups dislocated to the northern part of the region during the Dergue regime.

Given these conditions, the regional council has so far opted for Amharic as the medium of instruction. Apart from being widely used in the urban service sector and among the administrative elite, Amharic had the advantage of not favouring, in any manifest way, any of the different nationality groups. Accepting Arabic as an alternative language of instruction in certain areas would also have put hard pressure on the bureau, since trained Arabic speaking teachers are not available[10] and teaching materials in Arabic do not exist. It is also worth noting that the region is disputing some of its territory with Oromia. In fact, some woredas in the southern part have temporarily been given a special status, administered partly by the central government itself, awaiting a final agreement on their regional adherence. Perhaps, this regional dispute has reduced the willingness to consider Oromigna as a possible

[9] Not to be confounded with the traditional Koranic school.

[10] Previously, Sudanese teachers could find emplyment on the region, but because of political instability between Ethiopia and the Sudan in recent years and the closing of the border, these teachers had to return.

candidate for language of instruction, for example in target areas where it could arguably be a natural second-language choice for the population.

The vast majority of the population in all zones are farmers, mixing agriculture with cattle-herding. The comparatively small urban centres contain on the one hand the administration and public sector, including the education system, often Amharic speaking and with a relatively large number of persons originating from other regions, on the other hand merchants and traders, who in the western part of the region tend to be Muslim and second language speakers of Arabic. The political changes related to the decentralisation process has also produced a number of public administrators in leading positions originating from the various local nationalities and with a tendency to defend the cultural and linguistic claims of their nationality of origin.

Human and material resources at the Curriculum and Research Department

The curriculum and research department currently comprises 9 staff members. The recently appointed head of apartment has a post-secondary degree in languages from the Sudan and is fluent in Arabic. In social sciences there are 2 staff members, one with a BA in Geography from AAU and one with a diploma (12+2) in History from Kotebe Education College in Addis Ababa. Mathematics is represented by one staff member with a BSc in Mathematics from AAU, Amharic and English by one single staff member with a BA in English from AAU. The responsibility for Music and Arts lies with 2 different staff members, both with a 12+1 diploma. For Science, finally, no staff has yet been identified, and the REB uses high school teachers from the region for making regional teaching materials.

Although all staff members have participated in the workshops given by ICDR in Addis Ababa on curriculum development in general and on the syllabi for their respective subjects, nobody has any specific training in curriculum development. The most experienced staff member is the senior member of the Social sciences group

The curriculum department is located in the zone bureau, where it is in position of 6 badly equipped offices. Staff members in theory have access to computers at the nearby regional bureau, equipped with 4 desk top computers, 1 portable, 1 laser and 1 matrix printer, but in practice accessibility is unexisting; further no computer training has been given. No transport facilities have been available to the Curriculum Department, for example for visiting pilot schools, although the regional bureau is in possession of 3 or 4 vehicles. The school visit made in relation to the consultant's visit to the Curriculum department was the first one for more than a year.

Production of regional teaching materials

Lacking human resources and experience, the curriculum department has hitherto opted for sending its staff for extensive visits to ICDR in Addis Ababa in order to write the new teaching materials with assistance from the institute. The materials then have been handed over to the EMPDA for printing. This process has regularly taken more time than envisaged, which has led to delays in providing the regional schools with materials. This year, pupils' text books, but still not yet the teacher's guides, were distributed to the schools in the beginning of December, 3 months after the opening of the school year. Plans are that teaching materials for grades 3 and 7 will be made in Assosa, with a reduced reliance on ICDR.

Evaluation

This year, the region participated in the formative evaluation of the try-out materials for grades 1 and 5 implemented by the ICDR. No additional evaluation or study has been made at the regional level, since human and material resources did not allow it.

Teacher's in-service training in relation to the curriculum reform

The responsibility for teacher in-service training lies with the Department for Educational Programmes at the REB. Neither this department, nor the Curriculum Department have been able to organise any training at the regional, zone or woreda levels in relation to the introduction of the new materials. In other words, the curriculum reform has so far been implemented without any accompanying up-grading of teachers.

Some commentaries to the language-question

The region has opted for Amharic as the medium of instruction in all zones and woredas. There are obvious practical arguments for this. According to the REB, the majority of teachers in the region are fluent and trained in Amharic. Teaching materials can be more easily be written, since it is more likely to find commissioned writers with at least some experience for this language. Also, the assistance given by ICDR turns out more easily in Amharic. Further, Amharic is apparently used as one of the languages for wider communication, not only in the administrative sector but also in the commercial sector.

Among especially Berta-oriented politicians there is a strong interest for establishing Arabic as an alternative language of instruction. The REB has in fact written teaching materials in Arabic for the first grades of primary education. However, these have not so far been accepted at national level and it is unclear to what extent they keep up to the national

standard. On other hand it is obvious that Arabic is used as a language of wider communication, and especially so for the population groups involved in trade with the Sudan. The claim that there is a strong demand for Arabic teaching among parts of the population is confirmed by the emergence of a number of Arabic schools (not to be confused with the traditional Koranic school). Political tensions with the Sudan may, however, make the Central government unwilling to accept that Arabic is used as means of instruction in any part of the region. Without regards to these political dimensions it seems obvious that Arabic, if resources so permit, could be developed as one of several languages used in school.

The third major language used for communication between various language groups is Oromigna, which is apparently also spoken as a first language by part of the population in the South and East. Due both to the tension between Oromia and Benishangul regarding the status of the obviously Oromigna-speaking southern woredas around the town of Begi and to the fact that the educated administrative elite prefers either Amharic or Arabic, little mention was made of the possibility to use Oromigna as the language of instruction in areas where Oromigna is either the first language or the natural choice of a second language. However, it seems obvious that a sound language policy in future would need to consider this possibility, as well as that of using Arabic as an alternative.

Conclusions

Benishangul is a weak region as concerns human and material resources. Its poverty and remoteness would make it a strong candidate for SIDA support, since much could be gained through a strategically conceived input. With the exception of a few committed and experienced persons at the Regional Education Bureau, conditions for a successful implementation of the curriculum reform, or quality improvement in primary education in general, are weak. Teaching in the three schools visited in the region, including the Arabic primary school in Assosa, were in a bad state.

In contrast to strong regions such as Amhara or Oromia, the regional bureau in Benishangul does not have access to any institution on which it can rely when addressing educational needs, such as the writing of teaching materials, educational evaluation or teacher in-service training. There is only the Bureau and the secondary schools and their teachers. This small resource base goes hand in hand with a particularly complex educational situation as regards for example languages.

The Regional Education Bureau stressed the need for funding for school construction. The construction of new schools seems, however, to be of little meaning if the problem of the quality of teaching is not simultaneously addressed. The Curriculum Department and the

Department for Educational programmes at the REB need to be supported through various inputs. Staff would have to be trained in curriculum development and related areas. This could be achieved through participating in a capacity building programme monitored at ICDR, through minor research projects related to qualitative aspects of teaching and learning, through monitoring small pilot projects in a limited number of schools, through the development of teaching materials and, not the least, through organising and engaging in serious in-service training of primary school teachers. The objectives of such inputs would probably be best achieved if the Bureau was assisted by a foreign educational institution. Support to the Bureau would then also have to include other departments, although at a less ambitious level, such as the Planning department.

A strategic plan for educational development and improvement of the quality of primary (and secondary) education in Benishangul would also have to include the construction of and long-term support to a Teacher's Training College. The construction of TTIs in all regions is also part of the 5-years plan made at the Ministry of Education. Such a college would gradually become the resource base that the region so badly needs for developing and implementing a coherent strategy for the improvement of primary education through curriculum development, development of teaching materials and substantial in-service training. If such a coherent strategy is not developed and if real conditions for its implantation are not created, then there seems to be little point in supporting the expansion of primary education in the region.

3.5. CONCLUSIONS

In the so called strong regions, the departments for curriculum development and research set up by the regional bureaux represent a considerable potential for the improvement of basic education. Staff at these departments often, but certainly not always, give impression of being strongly committed to their work, to have substantial experience from the education sector and to have a sufficiently high general academic level for assuming many of their responsibilities. In addition, the decentralisation of authority over basic education seems to have as one of its most positive effects that the professionals dealing with its problems now possess substantial familiarity with the social, cultural and linguistic realities of the education system they are set to manage. However, there are also serious constraints. Firstly, even in strong regions regional experts in curriculum development and related activities are normally far from sufficient in number. Secondly, staff dealing with curriculum development still are often inadequately trained for this specific responsibility and rarely have any solid personal experience in this area. Generally, curriculum development and related activities, such as

development of teaching materials, conception of teaching methodologies or the design of in-service training programmes, are severely hampered by the fact that little knowledge or experience exist of how class room activities could be arranged differently. The curriculum reform generally contains a rhetorical vocabulary which makes it possible to talk about "problem-solving" teaching methods and the like, but that rarely materialises in teaching materials or class room practices because practical know-how is missing.

The curriculum and research departments at the "strong" regional bureaux, then, would be obvious candidates for a capacity building programme designed to improve the quality of curriculum development. Just as for the ICDR, the general professional and academic level of the staff at these departments is high, and their experts would undoubtedly know how to make fruitful use of the inputs such a programme could provide. In one sense staff at these departments give impression of perhaps being more motivated for such inputs, since the regional curriculum departments in a much more concrete way than the ICDR panels have to face up to the realities of primary teaching. It is these departments that have to materialise the national syllabi into teacher's guides, student's books and teacher in-service training, and they have little possibility to avoid confronting the concrete problems of class room interaction. In contrast, there is a noticeable tendency among the ICDR staff to avoid facing such problems by claiming that all responsibility for the application of national syllabi lies with the regional bureaux.

In the so called weak regions, qualified manpower as a rule is extremely scarce, and the regional bureaux are forced to fill out numbers with sometimes totally unqualified personnel. The impression is that the work of these department too a large extent depends on the contribution of a few very committed staff members. There is also a perhaps understandable tendency to appoint staff with political rather than professional status to higher positions at the regional bureaux, which often in practice may hinder development. Curriculum development and related activities, then, heavily depend on the professionalism and commitment of a few experts, and this will probably be so for quite a time. In other words, these experts are an important target group for support of the same kind as that just discussed for the strong regions. Without interfering with the political mechanisms regulating decision-making, support should be given in a way that guarantees that the professionals at these bureaux, rather than the politically appointed staff gets improved conditions for comply with their responsibilities.

However, the huge problems that these regional bureaux encounter on all levels and their difficult manpower situation call for a more coherent, systematic and long-term support to the education sector in their regions. In such a support, central institutions like the ICDR could possibly assume a wider responsibility, provided that they are given the possibilities to invest

in adequate knowledge of the educational realities of the concerned region. Donor support would need to consider other long-term inputs, such as the construction and professional support of teacher training institutes. One of the characteristics of these so called weak regions is exactly that the curriculum departments have little or no access to higher educational institutions that they can make use of in curriculum reform. As a consequence, these departments have to rely entirely on their own limited staff. Possibly, then, support to curriculum reform in Ethiopia could include a long-term, coherent support to the education sector in one or more of these weak regions. It could be argued that the chances that such support would contribute to a significant improvement in the education sector in these regions are fairly good, since so much is to be gained.

In all regions, material conditions for regional curriculum development are difficult. Computers are scarce and printing or copying facilities weak. It is probable that an adequate input of equipment and material resources would be cost-effective. More time and resources could be dedicated to improving the quality of regional curriculum materials if so much time and efforts would not have to be consumed on antique techniques for producing them and revise them.

Finally, a general comment should be made in this context. The current general and diluted character of the Sida sector support to education may be questioned on the basis of the experiences from weaker regions like Benishangul or Afar. There is little point in building schools, if children learn virtually nothing in these schools. To print text books of doubtful pedagogical value and without any supportive in-service training of the teachers who are supposed to make fruitful use of these books, is a half-hearted enterprise. The output of support to curriculum development, environmental education or health education is weak or non-existent, if such activities are not implemented as parts of a coherent strategy for quality improvement. There are, then, strong arguments for concentrating support to the education sector in order to contribute to *stronger coherence in the implementation of educational reform.* If the quality of basic education will ever improve, there is a need to seriously address cultural and pedagogical aspects of curricula and teaching materials, *simultaneously* with the need for systematic in-service training of teachers and material support to schools.

4. WHAT IS HAPPENING IN THE CLASS ROOM?

In order to get a clearer picture of how teaching looks like and what are the fundamental problems it embodies, a small class room interaction study was carried through in a limited number of schools in the regions that were visited. All in all 12 full lessons were observed in 5 schools in 4 regions. 10 of these lessons were given in try-out classes, i.e. classes that belonged to the experimental system, even though all schools were so called pilot schools.[11] Most observations were made in grades 1 and 2, and a few ones in grade 5.

The class room interaction observation form represents an attempt to create a simplified instrument for describing the nature of verbal exchange in the class room along a few but pertinent dimensions. Notes were taken in relation to each on of the parameters indicated in the observation form (e.g. "nature of teacher's interventions"), and class room interaction characterised according to the implicit spectre between the two extremes indicated by the two columns (in this case "informative" versus "regulative"). The outcome were simply detailed field notes, structured along the dimensions mentioned in the observation form. The instrument used for observation should be seen as a necessary compromise between the interest of making a somewhat more systematic attempt to collect information and the impossibility of making use of proper instruments for this very purpose.[12] After the lesson, the teacher was interviewed, using the guide presented next to the observation form. However, time constraints and the fact that most teachers had yet not got any copy of the teacher's guide made it difficult to achieve some of the goals set up for this interview.

4.1. COMMUNICATIVE PATTERNS

In all observed lessons, teaching was almost totally teacher-centred, in the sense that all verbal exchange was initiated by and passed through the teacher. Teachers normally would use much time on what we can call regulative language use, instructing the pupils how to sit, to keep quite, to do their exercises, to calm down, etc. - a phenomena that seems to be closely

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[11] All sections in a try-out or school or pilto school normally are not part of the try-out programme. This fact made it possible to visit both pilot sections and ordinary ones in the same grade and in the same school.

[12] Arranged in the present way, the form only permitted "qualitative" observations, i.e. that the observer qualitively described the observed lesson according to the parameters. Such a methodology demands an experienced and skilled observer. Arranged in a different way the form would have enabled the observer to quantify his observations. Such quantification of the instrument would however had implied that formal criteria were set for the classification of verbal exchanges and that much more sophisticated instruments were being used for data collection, for example recording devices. Since time constraints made a more rigorous study of this latter kind impossible, the "qualitative" approach was opted for.

connected to the teacher-centred teaching style, since pupils were required to always wait for the teacher's initiative. As a result, pupils also used a considerable amount of time just waiting - waiting for the lesson to start, for the teacher to copy things on to the black board, for other pupils to try to answer the teacher's questions, for others to finish exercises they already had finished themselves or were not themselves able to understand or solve, or to be corrected by the teacher. In fact, the act of waiting apparently was the perhaps dominating pupil activity. The combination of an entirely teacher-centred style of teaching and overcrowded classes[13] often resulted in a necessity for teachers to behave much like animal trainers, constantly having to tame the crowd of pupils sitting in front of them.

Even in the try-out sections, the predominant type of questions asked by the teachers were chorus questions, even though a clear difference in tendency here could be noted between pilot classes and normal ones. In fact, in a few of the try-out classes, chorus answers were reduced to a minimum. On the other hand, virtually all questions asked by teachers during the 12 observed lessons were so called closed ones, where pupils are invited to give a specific, pre-defined answer, normally taken from the previous explanations given by the teacher or from the text book. In no lesson, the teacher even once asked an open question, inviting pupils to express their opinion or experience. References to pupils' experiences in teachers' explanations were at large absent, even though teachers in social sciences or science would occasionally try to establish such connections. Further, teachers normally kept themselves close to the frame of vocabulary indicated by the text book and rarely tried to employ new words or expressions in their explanations. An important aspect of this tendency was that the teachers' explanations leaned towards complex syntax and abstract vocabulary, and especially so when something was written on the blackboard (see example of "grass-eating animals" in the illustrative lesson-note).

Consequently, verbal negotiations between teacher and pupils were almost non-existent, the normal pattern of exchange being of the classical question-answer-evaluation type. If a linguistic exchange between the teacher and a pupil extended beyond one single exchange, this was only because the pupil had answered wrongly to a question and was given a second possibility. There were no authorised verbal exchanges between pupils registered at all (although of course plenty of non-authorised ones). Moreover, during the 12 observed lessons, there was only one registered case of a verbal initiative from a pupil, represented by a demand for clarification in respect to the teacher's explanation.

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[13] According to norms, the pilot sections in try-out schools should not exceed 55 pupils per class. In general classes in pilot shcools were considerably smaller in size than normal classes, but could achieve a size of up to 65 pupils.

Pupils' language use, then, was utterly restricted. It was normally restrained to one-word individual or chorus answers to closed questions. Pupils were never observed to engage in language use for more truly communicative purposes, for example for expressing experiences or opinions.

As for the more general organisation and sequencing of class room activities, teachers would normally start a lesson either by revision of a previous lesson, most often by once again repeating the key subject matter and asking one or several individual or collective questions, or by the introduction of new subject-matter. Teachers in try-out classes would here tend to use more individual questions and a slightly more varied repertoire of approaches, for example calling a pair of pupils in front o f the class, whereas other teacher most often would satisfy themselves with chorus answers. This introduction of new subject matters would then be followed by exercises carried through individually. Normally, pupils would have to spend considerable time copying these exercises from the black board. During the exercises, teachers only in exceptional cases assisted pupils individually, and it never happened that pupils were assigned individual tasks adapted, for example, to their specific level. Next, the teacher would correct pupils individually, which often turned out to be an impossible task, considering the number of pupils. In no observed lesson, pupils who finished early would be given additional work, but had to wait for others to finish and be corrected, which at times would take 10 to 15 minutes. It was rare that teachers used the correction phase for giving individual assistance to weak pupils. A typical lesson would end with a session where the teacher went through the exercise in front of the whole class, and sometimes finally gave homework to the pupils.

OBSERVATION FORM FOR CLASS ROOM INTERACTION

I. Communicative patterns

NATURE OF TEACHER 'S INTERVENTIONS	
almost only informative	almost only regulative
NATURE OF TEACHER 'S QUESTIONS	
demanding individual answers	demanding collective (chorus) answers
open questions	closed questions
NATURE OF TEACHER 'S EXPLANATIONS	
concrete	abstract
reference to pupils'experience	without reference to pupils' experience
uses new vocabulary	uses vocabulary from text book or manual
simple syntax	complex syntax
NATURE OF VERBAL EXCHANGES	
many verbal negotiations with pupils	few verbal negotiations
many verbal initiatives from pupils	few verbal initiatives from pupils
verbal exchange between pupils	no verbal exhange betwen pupils
NATURE OF PUPILS LANGUAGE USE	
complex sentences	one-word sentences
uses language for communicating experiences or opinions	uses language for reproductive purposes
USE OF TIME	
time used for pupils' interventions	time used for teacher's intervention
all pupils are active	few pupils are active
little time for waiting	much time for waiting

II. Other observations

Organisation of class room activities
Pupils are engaged in group work
Pupils work individually in a planned manner
Individualisation exists (meaning: pupils engage in individually designed tasks)
Teacher assists pupils individually
Piloting

Experiments
Exist - do not exist
Demand active participation from pupils - do not demand active part.

Assessment
teacher applies a system for systematic individual evaluation
a) in a systematic way b) in a non-systematic way
teacher has a non-systematic system for individual evaluation
teacher has no system for individual evaluation

individual assessment leads to pedagogical remedies

General impression of learning outcomes
Pupils correspond or not to the level demanded by teaching during the lesson
as regards the understanding of instructions
as regards carrying through excercises (incl mathematics)
as regards reading and writing
as regards speaking (especially in language lessons)
as regards the understanding of concepts (check throug h questions)

Lessons, then, normally followed a fairly routinised scheme, built up by a few constantly repeated components. Neither group or pair work nor experiments or excursions were observed. Moreover, there was no sign of pupils ever being assigned individual work

specifically designed for them or that they worked individually with exercises that were not given at the same time to the whole class. In as far as teachers tried to explain obvious difficulties in the subject matter, piloting was frequent (for example existing in the act of breaking down mathematical calculations to small components that the pupils can understand, without enabling the pupils to reach an understanding of the required calculation as such).

III. TEACHER INTERVIEW
Was it a good lesson? / alt: Did the lesson go as you had planned?/
To what extent did you follow the teacher's guide?
Do you think that the teacher's guide provides you with good instructions for teaching? Do these instruction function well?
What were the most important subject matters?
What were the most important difficulties in terms of learning?
What specific learning difficulties do the pupils have?
Are these difficulties taken into account in the text book? In the teacher's guide?
Is the text book and syllabus too demanding or not?
What kind of assessment techniques does the manual precribe/propose?
Are these functional, according to your experience?
What can you do, if pupils do not learn according to the syllabus/text book?
What actions do the manual propose?
Which are the main differences between the old curricula and the new ones?
In what respect are the new curricula better?
Have you been trained in relation to the new curricula? How?
Was this training adequate? What was missing?

As for evaluation, all teachers in the try-out classes were able to present a list of their pupils with individually assigned indicators of their performance over time. It was however not very clear how this evaluation was being made. During lessons, evaluation consisted only of the correction of exercises. No attempt was seen to in any sense adapt teaching to the learning problems eventually identified by the individual evaluation.

With the exception for mathematics where regular assessment tests were done, a necessarily rather impressionistic attempt was made to assess the relationship between pupils' proficiency, on the one hand, and the inherent demands put on pupils by teaching during the observed lessons, on the other hand. This was done through observation of how pupils copied and made exercises, how they answered questions or interpreted instructions. A general impression was that, beginning early in grade 1, a continuously increasing amount of pupils, were not able to cope with the demands of teaching. They did not learn to read and write at the required pace, and they did not manage to master the basic mathematics - simple addition and subtraction - on which more advance mathematical skills are founded. Even in grade 2, perhaps the majority of pupils in all observed classes apparently counted on their fingers and had not acquired the mental modes for calculation required at their level. A

typical situation during any maths or language lesson in grades 1 or 2 would be that between 30 and 60 percent of the pupils were not able to follow teaching accurately. They would often have insurmountable difficulties in even copying or understanding exercises given by the teachers.

Were there no significant differences between try-out classes and normal ones or between teachers with some amount of in-service training and others? Yes, there were. In general terms, teaching in try-out classes tended to be more cautiously planned and organised, and teachers more motivated. As has already been noted, chorus answers were less common in such classes, even if they by no means had totally disappeared. The two observed teachers who applied a considerably more varied pedagogical approach were found in these classes, a fact that may be encouraging in an in-service training perspective.

4.2. CONCLUSION: CURRICULA AND TEACHING MATERIALS IN THEIR CONTEXT OF USE

A major obstacle to the analysis of the role of the teacher's guide in respect to teaching habits was that very few teachers had received the new revised teacher's guide for grade 2, in which the new curricula and teaching materials this year are introduced nationally, or even possessed a copy of the first, try-out guide from the previous year. Hence, it was difficult to understand to what extent the teachers were influenced by the existing guides, and to what extent the instructions in the guides were functional or not in the pedagogical reality that the teachers affronted. Some commentaries can however be made on the basis of the discussions with the teachers after the observed lessons.

It seems clear that teaching in Ethiopian primary class rooms affronts most of the classical problems that haunt third world education. In any given class room, a large portion of the pupils do not correspond to the standards set by national curricula and teaching materials. The discrepancy between the level of transmission and the level of reception or learning starts to grow already from the very beginning of the first school year. Selection mechanisms and high pupil mortality see to that most of the pupils having most difficulties disappear along the years, but even so the typical situation from grades 2 upwards would be a pedagogically difficult heterogeneity within one and the same class, where a few pupils may more or less correspond to the defined standard and others would be in need of going back to subject matters taught in much earlier grades. The reasons for this discrepancy are manifold, but relate in general terms to the cultural and linguistic distance between school and the domestic environment of the child. In this complex situation, the poorly trained and poorly equipped primary school teacher cannot but rely as much as possible on the teaching

materials, i.e. comply with their demands and accept their pacing and sequencing of subject matters. Anything else would demand a highly skilled and highly self-confident teacher.

No thorough analysis of teacher's guides has been made within the framework of this study, but it seems evident from discussions with teachers and through an analysis of text books, that these guides do not - or cannot - give the teachers any functional guidelines for how to cope with the complex pedagogical situation they are affronting. At the best, teacher's guides provide the teacher with examples of alternative and varied ways of presenting subject matters and do exercises. When teachers were asked what they could or should do when pupils do not follow the pace set up by the teaching materials, they would normally both acknowledge that a considerable share of pupils in fact do not keep up to standards and that they themselves cannot do much about this since they try to keep to the instructions given in the teaching materials. Put differently, one can say that the existing teaching materials in general terms are not sufficiently adapted to the complexity and variety of the teaching situations in which the teachers are supposed to act. As shall be argued later on, teaching materials possibly cannot come close to these realities if they are not based on research findings, truly experimental teaching and careful evaluation. Since the existing curricula and teaching materials in Ethiopia are not produced under such conditions, it could perhaps not be expected that they would describe realistic teaching situations and assist teachers in their difficult task of handling complex class room realities.

To what extent is this problem only a question of teacher in-service training? It should immediately be acknowledged that these difficulties may be at least alleviated by systematic and relevant in-service training. In the small class room observation study, signs were that the few teachers who had benefited from any up-grading courses in the context of the curriculum reform were more able of changing old-fashioned teaching styles, avoiding, for example, chorus answers. If the Ethiopian curriculum reform were to be accompanied by a heavy input of in-service training, teaching and learning outcomes would probably improve. On the other hand, it seems obvious from class room observations that the existing teaching materials, and the methodologies they propose, do not sufficiently take into account the pedagogical difficulties any teacher would necessarily affront in teaching. To the extent that up-graded teachers would be bound by the instructions given in the teacher's guide and by the pacing and sequencing of subject-matters in the text books, the teaching materials may prove to be an obstacle to real improvement. It is therefore particularly important that mechanisms are created whereby experiences from real teaching feed back into the in-service training system and into the revision of curricula, syllabi and teaching materials.

5. CURRICULUM DEVELOPMENT POLICY GUIDELINES, NATIONAL SYLLABI AND REGIONAL TEACHING MATERIALS

Curriculum materials for basic education produced within the framework of the new educational policy exist at three levels. First, the development of national syllabi is guided by policy documents at higher level, endorsed mainly in 1994. Secondly, the ICDR develops national syllabi guiding the writing of teaching materials. Thirdly, teaching materials - text books and teacher's guides - are developed regionally on the basis of the centrally endorsed syllabi. This section deals with this three levels. A problem in the analysis has been that both the policy guidelines and the national syllabi often are formulated in too general terms to enable a more consistent analysis of what they mean for the framing of teaching. Teaching materials, on the other hand, have been difficult to get hold of in time for a proper analysis to be made, given the dead-line for the present study. It is particularly regrettable that so little time could be spent on an analysis of the instructions on methodology given to the teachers in the teacher's guides, since the approach to teaching problems are most clearly revealed at this concrete level. The following should therefore be seen more as commentaries to the curriculum materials than as a full-fledged analysis.

5.1. THE POLICY GUIDELINES AND BASIC CURRICULUM FRAMEWORK

In this section we will first make reference to two basic policy documents that have guided the current curriculum reform for primary education - "Education and Training Policy", dated April 1994, and the "Education Sector Strategy", dated September 1994, both endorsed by the Transitional Government of Ethiopia.

The "Education and Training Policy" starts off by briefly examining the current problems of Ethiopian education. Here, several of the key notions imbedded in the new reform policy appears:

> To date, it is known that our country's education is entangled with complex problems of relevance, quality, accessibility and equity. The objectives of education do not take cognizance of the society's needs and do not adequately indicate future direction. The absence of interrelated contents and modes of presentation than can develop student's knowledge, cognitive abilities and behavioral change by level, to adequately enrich problem-solving ability and attitude, are some of the major problems for our education system. (page 2) /.../The /new educational/ policy emphasizes the development of

> problem-solving and culture in the content of education, curriculum structure and approach...(page 4)

Hence, lack of relevance to the needs of the individual and of society, as well as weak ability to promote problem-solving capacities and cognitive aptitudes are stressed. In the "Education sector strategy" that followed later the same year (September, 1994), this analysis is made even more elaborate. The then existing curriculum is identified as "overloaded by theoretical knowledge with little emphasis on practicum", in a way that "neither inspire creativity or equip one with sufficient skill". Hence it appears not to have "the capacity to prepare the learner for a meaningful and productive life in the community" (page 3). Again, one of the core objectives for the new education policy is identified as making "education relevant by providing problem-solving skills and an all-rounded education catering to the needs of the individual and the society" (page 13).

A point that should be made here is that the positive values indicated in these paragraphs - relevance, problem-solving, practical skills - should be seen as components of a new vocabulary emerging as part of the rhetoric of curriculum reform and educational change. This vocabulary also include other key words, such as "participatory", "communicative" or "child-centred" teaching and learning. This rhetorical vocabulary plays an important role in most discussions on curriculum reform and teaching in today's Ethiopia. One of the problems that the current reform is faced with is that these key words at one level live a purely rhetorical life. The fact that they are frequently used, do not automatically mean that they shape primary teaching as it is manifested in class rooms, or even that they can be said to characterise teaching methodologies found in teacher's guides or the selection or sequencing of content in syllabi. In fact, the challenge of the Ethiopian curriculum reform seems exactly to be how to make some reality out of this rhetorical repertoire.

On the other hand, it should be emphasised that it does make a difference what kind of legitimate rhetoric are used in the discourse on education. The progressivistic values that prevail in this discourse probably by themselves represent a positive force in the current education reform, since students, parents, teachers, teacher instructors, curriculum developers and writers of teaching materials will be confronted with them and try to make sense out of them.

The general policy framework for basic, secondary and technical/vocational education, and for teacher training are further concretised in what seems to be the principal more detailed steering document for curriculum development, the "Education and training programme, including period allotment and contents selection criteria. Short term plan for

developing and implementing the new curriculum", produced by the Institute for Curriculum Development and Research in 1994. This document comprises a general curriculum for the above mentioned areas, which is fairly general both as regards level-specific goals and objectives and as concerns prescriptions for content selection, but which on the other hand contains decisive instructions on important framing factors, such as subject-division and period allotment.

For the first cycle of primary education, grades 1-4, teaching is divided into four so called content areas - language, mathematics, natural sciences, social sciences and aesthetic education. The content areas are further distributed along no less than 9 separate subjects. The subject-division and the corresponding period allotment is shown in Figure 4.

Figure 4.

Subject division and period allotment, grades 1-4

Content area	Subject	Grade 1	Grade 2	Grade 3	Grade 4
Language	Mother tongue	5	5	4	4
	English	5	5	5	5
	National language			6	6
Mathematics	Mathematics	5	5	5	5
Natural Science	Science	5	5	5	5
Social science	Social studies	4	4	4	4
Aesthetic education	Physical educ	2	2	2	2
	Music	2	2	2	2
	Arts	2	2	2	2
Total periods/week		30	30	35	35

A few comments should be made to the organisational and pedagogical consequences of this division into subjects, in the light both of international experiences and of the class room observations made in the context of the present study. First of all it, most international experience point to that teaching (and learning) during the first years of primary education should be integrated, meaning that the teaching of basic skills such as literacy and numeracy to a large extent should be embedded into other learning activities. This is especially true for developing countries, where the general conditions for schooling are particularly difficult. The Ethiopian primary education curriculum distinguishes in fact between no less than 9 subjects, each one of which is allotted a certain number of periods per week. Even if instructions to the developers of syllabi and teaching materials were to very clearly demand an integration of teaching and learning in these various subjects, such an integration would probably be difficult to achieve since subjects are conceived separately. It would undoubtedly had been wiser to opt for at the most four basic subjects, integrating the above mentioned

content areas, i.e. language, mathematics, science/social science and aesthetics. This would have given clearer signals to the developers of syllabi and teaching materials, both for formal education and for the teacher training system. In a still more advanced stage, most teaching in the first cycle of primary education could be integrated, focusing on the acquisition of basic literacy and numeracy. The more directly content-oriented "subjects", such as science and social science could then be distributed as thematic areas dealt with throughout the school year and throughout the first four years of primary education. Aesthetic education, in turn, could to a large extent be made part and parcel of the teaching of basic skills, integrating for example drawing and writing.

Such an integrated teaching would necessarily have put new and different demands on curriculum developers that may represent hitherto unknown challenges. In that sense such a pedagogical strategy would have created a new set of problems for the ICDR and for regional curriculum experts. On the other hand, the current curriculum solution will now probably for many years shape sub-systems such as the development of teaching materials and teacher pre- and in-service training and consequently have negative effects on teaching for many years to come. To some extent the effects of the strong subject-division is alleviated by the fact that the new curricula also opts for self-contained classes, i.e. classes with basically one teacher teaching all or most subjects. As reported by the formative evaluation, however, resistance among teachers to the idea of self-contained classes is often big, and in many schools this rule is simply not being implemented.

The brief analysis of syllabi and teaching materials, as well as the class room observations, confirm that the division of primary education into a number of separated subjects has led to a very weak integration of learning activities. References in syllabi and teacher's guides as to the integration of for example the teaching of numeracy and the teaching of literacy, or to the integration of subject-specific goals for anyone of the now separate subjects, are rare. Class room observations confirm that such integration almost never occurs in real teaching. In fact, because of the resistance to self-contained classes, teaching in many Ethiopian primary class rooms is minutely divided between subjects and teachers, in a way that probably severely hamper learning. Pupils are supposedly taught how to read and write in one lesson with one teacher, then taught how to count in another lesson with a different teacher, and then taught science or social science in a third lesson with yet a new teacher. As an effect, teachers are made even more unable to individualise teaching by assigning individual tasks to students, according to their relative level in the various subject-areas.

If one of the main obstacles to the implementation of a more integrated primary education probably is the academic and secondary education-dominated traditions among curriculum

developers, another serious obstacle is the prevailing traditions among teachers and in the teacher training system. As witnessed by the formative evaluation, a change towards a more integrated teaching would require that attitudes and traditions in this respect change. It could also be argued that integrated teaching would require much more well-trained teachers, since more demands would be put on them to manage such integration. To some extent, this may be true, but on the other hand it should not be forgotten that the current strictly subject-divided teaching hardly promotes learning in Ethiopian primary schools, and to a certain extent probably primarily serves the function of creating a feeling among teachers and curriculum developers of overview and control.

5.2. **CHRISTOPHER STROUD:** THE CURRICULUM MATERIALS IN LANGUAGE EDUCATION

Abstract

This part of the report will review curriculum, materials and methodologies, teaching training packages and research and evaluation infrastructures for language teaching, specifically as they pertain to the languages Oromo, Amharic and English. The review is structured so as to first present and discuss some general considerations and assumptions underlying the language curriculum for Ethiopian schools (section 1).

Secondly, the review will treat and discuss what implications these basic curricular framing conditions carry for teaching materials and teaching methodologies. (section 2)

The third section of the review of language disciplines will be an overview of how and to what extent the current methods, materials and teacher training programmes developed for the new curriculum have been adequately conceived in relation to the curriculum or not

The fourth section will discuss the educational support infrastructures.

The fifth and final section will suggest some recommendations and conclusions.

Language curriculum guidelines as stated in policy documents

The Ethiopian language curriculum - as expressed in the "Education and training programme, including period allotment and Contents selection criteria. Short term plan for developing the new curriculum" (ICDR, 1994) - is, more or less explicitly, centred around the following framing factors:

(a) recognition of the cognitive, sociocultural and ethnic importance of mother tongues or L1s
(b) a view of multilingual societies that assign different languages to different functional roles
(c) a conception that the functional role of different languages in society should have pedagogical implications
(d) psycholinguistically based ideas on language sequencing
(e) view of the language learner as creative and socially negotiative
(f) a conception of the classroom process in accordance with (e) to encompass a range of meaningful, learner-centred and negotiative activities

I will briefly review each of these factors in turn, providing a short presentation and comment on the research bases and arguments for each framing factor.

Today, there is an overwhelming body of research and practical experience that underscores *the importance of incorporating children's mother tongues* into formal educational structures. As stated by Rugemalira et al (*Rugemalira, J.M., Rubagumya, C.M., Kapinga, M. K., Lwaitama, A.F., and Tetlow, J. G., 1990, Reflections on Recent Developments in Language Policy in Tanzania, in Rubagumya (ed.),* ***Language in Education*** *in Africa. Clevedon:Multilingual Matters*) "It is beyond dispute that the educational process in any society ought to be conducted through a language that both the learner and the teacher command well. This is a minimum requirement for any communication to take place in the teaching/learning situation" (ibid:p.28). Using mother tongues does not only guarantee a necessary minimum of communication and meaningful interaction between teacher and pupil, but also contributes to easing the transition between informal routines of socialisation through language in the home environment, and the institutional use of language to formally educate. The intellectual advantages for the child in dealing cognitively with new content in a language that s/he masters, thereby permitting a meaningful stance on learning, are beyond doubt. Cummins (*Cummins, 1981, Age on arrival and immigrant second language learning in Canada: a reassessment.* ***Applied Linguistics****, 2;132-149*) for example, found that it took non-native speakers on average as long as five to seven years before they were able to master a second language well enough to cope with academically complex content at native speaker standard, an argument as good as any for choosing to teach in a language that children understand. Children's acquisition of literacy skills is also facilitated by using a language s/he masters natively. Not least important in using mother tongues is that pupils' *socioaffective language functions* might be engaged in the learning and negotiation of content. Using mother tongues allows pupils and teachers to encode culturally appropriate roles of novice and caretaker, and a supportive environment can be created for learning through latching into aspects of language associated with the expression of children's primary identities.

Clearing a space for mother tongues in formal institutions such as the school can also have a number of positive ramifications for the community of speakers of the language. Firstly, educational use of a language is tantamount to a societal recognition for the legitimacy and value of the language for important functions. This contributes to elevating the prestige of the language in the eyes of its speakers, which in turn helps create the attitudinal stances necessary for a the linguistic survival of its community of speakers. Secondly, as mentioned by Akinnaso (*Akinnaso, F.N.,1991, Toward the development of a multilingual language policy in Nigeria.* ***Applied Linguistics****, 12;29-61*), positive outcomes will involve "possible

long-terms effects on the development of local languages, reduction of illiteracy, better use of educational opportunities and better access to life chances" (p.42).

The idea that *different languages in a society can be assigned to diverse functions* is one, more or less well-grounded, assumption underlying the formulation of the new curriculum in Ethiopia. In the Policy Document, the division of labour that comes across is for mother tongues to be the idiom of hearth and home and local community, Amharic the language of wider communication and national integrity and consolidation, and English to comprise the language of science, technology and economy, and a 'life-line' to the global community. A common argument for the status of medium of instruction accorded English is also found in the Policy Document in the following words:

> "If Ethiopia is to develop modern technology and industry, along with modern research in all spheres of life, and keep up with the continuous scientific and technological advances, English should be retained in the Ethiopian educational system" (p.13)

Although this is the most common picture of international, national and local languages, I believe that a case can be made within the Ethiopian context for considering the functional role of languages within a wider, *development-oriented* social reality. In other words, I would argue that the roles assigned to languages need to be conceived relative to the social conditions in which they are embedded. One important question to consider in this context is what the long term social, economic and linguistic consequences may be of assigning specific languages to specific functions in the African context. Firstly, as Didjé (*Didjé, P.G.,1993 Language and development in Africa.* ***International Journal for the Sociology of Language***) has pointed out,

> "/t/he argument according to which development in Africa can only be achieved through a superimposed international language has essentially resulted, over the last three decades, in the crystallisation of closed oligarchies oriented mainly to self-aggrandisement, the maintenance of power and prestige, and the continuation of political instability" (p. 151)

Secondly, it could be argued from a developmental perspective on society that in contradistinction to the prevailing homage paid to 'international languages' the "linguae francae are the best vehicles of modern culture, science and technology". These languages namely "constitute the dominant interethnic communication networks and are fundamental

and relevant factors to social integration, economic development and political stability" (ibid:152).

Thirdly, within the local community, mother tongues are of course the most immediate means of communication for diffusion of technological know-how among those who need it. A focus on too strict a division of labour between languages may lead to large segments of the population being denied important access to vital grassroots consumption of technology, and to the "impoverishment" of mother tongues with respect to technological discourses.

A further assumption is that *the linguistic division of labour lies behind the choice of which languages to teach, when, and for what purposes.* Here, it is clear how educational language policies and planning is integrally connected to sociopolitical ideas on language and society. The Ethiopian educational language policy of teaching three languages with different degrees of "hierarchization" is a just and admirable interpretation of *de facto* linguistic realities. However, I believe that it is imperative to more critically address the functional division of labour for languages at different levels of the hierarchy, as this may have consequences for the development of appropriate vocabulary, discourse, texts etc.,. for each language.

With respect to *language sequencing*, the curriculum policy document argues for the introduction of Amharic to non-native speakers of the language in grade 3. As support for this choice, the authors refer to pyscholinguistic theories of children's' language acquisition. Particularly, they claim that children are able to acquire a second language natively up until the age of 10 (grade 3), and that this ability should be harnessed for the acquisition of Amharic. Furthermore, at age 10, children will also have acquired important literacy skills in the mother tongue, as well as experience of language acquisition in the school context that they can transfer to the learning of Amharic. Mention is made of the fact that Amharic is spoken in the child's environment, and that most children already have had some contact with it when they encounter it at school, - a fact which obviously can be expected to favourably contribute to the acquisition of the language.

In discourses such as this, arguments for an early introduction of a language that lean on the notion of a critical period for language acquisition are far from just stating scientific fact. Frequently, proponents of this type of argument highly value the language in question and consider it important that non-native speakers master it to perfection. The critical period hypothesis becomes a rhetorical tool of persuasion, or a scientific metaphor for some sociolinguisitic 'engineering. It is namely the case that functionally adequate levels of mastery of a second language can be attained at different ages of first contact with a target language. From a scientific point of view, the critical period (age 10) data need to be critically considered, or at least the claims made need to be nuanced. As a language is not a

homogenous system, but a potpourri of different types of units requiring different modes of processing, it should not be surprising to learn that different subsystems of language are each sensitive to different critical periods. In order to acquire a native phonology in a language, for example, a learner must come into contact with a language before the age of 6; the critical period for native-like mastery of syntax, on the other hand, seems set at the age of 15-16; and acquisition of vocabulary is an ability which individuals retain throughout their lifetime. This means that there are also other types of argument that could legitimately be used in determining when a language should be introduced. For example, in situations where minority language speakers feel threatened by a dominant language, considerations of language maintenance/sheltering may dictate a later introduction of the dominant language into classrooms.

The curriculum document for languages paints a picture *of language learning as socially embedded in meaningful, and negotiative activity.* This is also in accord with a large amount of recent and very important research where language is seen as a culturally organised system of meanings, and where the acquisition of language is part-and-parcel of becoming socialised into a specific set of sociocultural routines for understanding and symbolically manipulating the world. A child learning language, then, is nothing less than a socio-cultural novice in the process of becoming a knowledgeable and competent member of a community; Language acquisition is socialisation into the norms and values of the target-language community.

Such a view of language learning underscores the importance of learners' semiotic interactions with his/her environment. In turn, it also has implications for how languages can, or should, be taught. Studies of styles of interaction in the classroom (e.g. *Long, 1983, Native speaker/non-native speaker conversation in the second language classroom. **On Tesol '82.** Washington D.C.:TESOL.*) argue that contexts that involve active negotiation of meaning provide the most optimal conditions for acquisition of a language. Through modified interaction comprising comprehension checks, clarification requests, expansions and metastatements, the teacher can maximise students' engagement in interactions involving language. Likewise, teacher's strategies of simplification of linguistic 'output' (similar to natural strategies of linguistic adaptation on behalf of native-speakers when talking to a linguistically less proficient interlocutor) also contribute to pupil engagement and communication. Other ways of creating a situation of meaningful communicative negotiation is, for example, to arrange the classroom so that meaningful peer interactions are encouraged. One way in which this can be accomplished by placing pupils in heterogeneous groups with respect to language proficiency and asking them to collaboratively solve a problem.

In the Ethiopian policy documents, this theoretical stance on the learner is adequately provided for through suggestions on how to organise *classroom processes* in order *to*

encompass a range of meaningful, learner-centred and negotiative activities. The document states that

> "As far as the language teaching approach is concerned, it mainly follows the current approach to language teaching. This is the communicative language teaching or the learner-centred approach. With this approach, the learners will create an atmosphere of real-life situations and form social interaction in the classroom, so as to solve their problems through communication" (p.17)

As an example of what this can entail in practice, the policy document lists a variety of activities that ought to find a place in the language classroom, such as, among much else, *creating conditions that enable the learners to acquire practical (functional) grammar of the language they learn*; *creating situations that help the child to play, discuss and debate*, or *receiving views/opinions properly and transmitting them likewise.*

Summary

In summary, I think it is fair to say that the Ethiopian language curriculum has insightfully dealt with some difficult and contentious issues - at least at the level of policy making (see section 5 below). The importance and legitimacy of educating children through the medium of mother tongues at primary school level is recognised and also provided for. Furthermore, the curriculum policy document contains principled and theoretically grounded decisions on how to manage Amharic as a Second Language and English as an International/Foreign language. Finally, the stance taken on language teaching methodology and the recommendations proposed for classroom practices in the Ethiopian primary school show a sophisticated grasp of current theoretical discourse in the areas of language acquisition and language teaching.

Despite this, I have two points to take up in relation to the framing conditions which I believe may warrant further reflection. The first point concerns the role of mother tongues from grade 9 onwards. In the documents available, mother tongues do not seem to have been given any role at secondary or higher levels at all, - unless the rubric *Optional Languages* can be understood to also cover the possibility of continuing using mother tongues. If this is so, the choice to not continue teaching them in secondary school may be unfortunate from the perspective of the long term maintenance and development of mother tongues. This is because speakers of these languages will be deprived of the possibility that taking part in academic discourse bestows of stylistically enriching their languages and expanding its range of repertoires. Secondly, the attitudinal message transmitted to speakers is that mother

tongues are not as useful or valuable as Amharic and English, and this stance will undoubtedly be transmitted to younger generations.

However, it should also be pointed out that the Ethiopian system of employing mother tongues as media of education as long as grade 8 is an admirable and unusual accomplishment in itself when compared to the practices found in many other countries.

My second point, related to the one immediately preceding, is basically a reiteration of the point mentioned earlier. This is that language functions/roles need to be reconsidered in a development perspective. It is possible that an investment in languages other than English as languages of science and technology would permit larger segments of the population to access important information for their daily lives. If so, an important task of primary education would be to cultivate the teaching of mother tongues from this perspective.

Implications of curriculum framing conditions

In this section, I want to look briefly at what implications the curriculum framing conditions discussed above carry for materials and classroom methodologies. I will be specifically concerned with two questions; Firstly, what general approach to course design, instruction, language learning and evaluation constitutes a good learner centred, communicative activity focusing on the negotiation of meaning. Secondly, how can such a general approach be transplanted to specific pedagogical milieus with potentially different teaching traditions and conceptions of the role of schooling.

With respect to the first question, White (*White, R.V., 1988.* ***The ELT curriculum. Design, innovation and management.*** *Oxford: Basil Blackwell*) distinguishes between two types of materials, what he calls Type A and Type B, which are relevant in this context.

In Type A materials, the focus is on *what* is to be learnt. Items included in such materials are dictated by concerns external to the learner; the objectives of the course are determined by authority with little regard to the needs of learners. These types of materials comprise preselected and pre-digested language divided up into small pieces and arranged according to some principle of complexity irrespective of how languages are learnt. In Type A materials, the subject matter itself is of prime importance, and the student is evaluated as to how well s/he masters the subject matter.

Type B materials focus on *how* languages are learnt. According to Long and Crookes, (*Long, M. and Crookes, G. 1992. Three approaches to task-based syllabus design.* ***Tesol Quarterly*** *26/1;27-56*), "They involve no artificial preselection or arrangement of items, and allow objectives to be determined by a process of negotiation between teacher and learners"

(p. 29). Likewise, criteria for accomplishment is related to learners own goals or those negotiated in the classroom

A further distinction that can be made is between *analytic* and *synthetic* syllabuses (*Wilkens, 1976. **Notional Syllabuses**. Oxford: Oxford University Press.*). This refers to the operations that learners are required to do on language. In *analytic* syllabuses, learners are required to breakdown and analyse complex samples of language in order to get at meaning. In *synthetic* syllabuses, the major operation learners take part in is putting bits of language together to make more complex wholes. Analytic syllabuses, where learners are required to extract meaning and structure from language corpora, are more in keeping with Type B syllabuses.

Materials constructed on the format of the Type A design embody many problems. For example, there is an assumption that the units into which language is divided (be they functions, structures, notions, vocabulary items or whatever) are also the units with which the learner operates psycholinguistically, that the units and rules formulated in a pedagogical grammar also are psychologically real for the learner. (see Long, M. & Crookes, G., ibid.). This is not always the case, and the preselection and arrangement of materials on whatever principle of progression do not therefore necessarily chart out paths of acquisition that learners will follow. Furthermore, Type A syllabuses tend to be more teacher-centred and to involve decisions on the form of teacher-talk and what stance to take towards meta-linguistic explanations, for example, or not to explicitly 'teach' grammar.

On the other hand, Type B materials make no assumptions about psychological reality, and permit classroom methodologies to grow from the nature of the activities negotiated between pupil and teacher. A typical Type B activity would be Task Based syllabuses, where pupils and teachers interact linguistically around some task such as working with charts, maps or school timetables, or discussing problems related to money, programmes or itinieries etc. In these activities, the language learnt and used is the language necessary to meaningfully negotiate the demands of the task; successful task completion is the criteria for success, not language correctness. The type of language required of the teacher and the forms that interactions in the classroom take are also determined by task demands. Teachers have been found to simplify and adjust their language to children when they feel that pupils do not understand or are not proceeding satisfactorily with the task, i.e. teachers naturally produce comprehensible input (*Krashen, S. 1985. **The input hypothesis**. London: Longman*) into second language acquisition in interaction. The level of language complexity is therefore automatically adapted to the needs of the real communication situation at hand. Furthermore, metalinguistic explanations are a natural component of task based materials. Pupils and teachers focus on form and structure when this is necessary to resolve ambiguities or

misunderstandings. Explicit focus on form has been found in many studies to contribute to learning (*Long, M. 1991. Focus on form. A design feature in language teaching methodology. In K. de Bot, D. Coste, R. Ginsberg, & C. Kramsch (eds.),* ***Foreign language research in a cross-cultural perspective****. Amsterdam: John Benjamins.*). In task-based activities, teachers' corrections tend to be of the type found in natural conversations between parties, where expansion and corrections of others speech are subordinated to problems in understanding or transmitting meaningful content.

An approach to materials and instruction that emphasises meaning-negotiation is not only of interest for the acquisition of second languages, but also for the learning of *literacy*. By embedding initial contact with reading and writing within extensive focused oral interactions around narratives and forms of story telling that are culturally familiar to the child, meanings and functions of literacy are contextualised in everyday situations. This has a decisive impact on the ease with which literacy is acquired, and for what purposes (see e.g. *Heath, 1983;* ***Ways with Words****. Cambridge; CUP.*).

Turning now to the second question, one of the most challenging tasks in any specific teaching situation is to find ways to functionally incorporate the philosophy of a learner-centred, communicative, participatory language pedagogy, perhaps changing it in the process. There are different facets to this problem. Firstly, it has been demonstrated in research (e.g. *Wong-Fillmore, 1982; Instructional language as linguistic input: Second language learning in classrooms. In Wilkinson, L. C. (ed.)* ***Communicating in the classroom****. New York:Academic Press.*) that instructional techniques that enhance student participation in meaningful communicative contexts are differentially effective for different groups of students. There are quite simply sociocultural differences in appropriate ways of entering into meaningful communication. In other words, classroom techniques that might work well for one group of students might fail to work for another group.

Secondly, different teaching environments may enshrine different cultural traditions on, for example, the role of authority in classrooms, or the rights of interaction for adults vs children. Professional or institutional standards for teacher/pupil roles may also differ. In other words, prevailing climates of schooling in some contexts might not be conducive to learner initiatives or to other central components of a learner-centred curriculum of this type - components that many might experience as lack of control on behalf of teachers or as a laxness in determining learning goals and criteria for accomplishment.

In other words, a learner-centred curriculum needs "to come to terms with the norms and expectations of formal education in general" (*Prabhu,N. S. 1987:****Second language pedagogy****. Oxford; Oxford University Press*).

So far, I have focused only on the implications of the framing conditions contained within the curriculum policy document for the general approach to materials and methods in language teaching. There are a number of other, more specific, implications related to the multilingual dimension of curriculum policy that deserve mention. For example, recognising the educational importance of mother tongues requires the means of teaching them, which at least involves the following (from *Akinnaso, F. N. 1991;Toward the development of a multilingual language policy in Nigeria.* ***Applied Linguistics****, 12, 29-61*)

linguistic analyses of the phonology and grammar
a practical orthography
a dictionary and practical grammar
prepared and tested primers and supplementary readers
a developed metalanguage for various subjects
textbooks available in different subjects
prepared and tested sets of teachers' notes and manuals
trained teachers and teaching facilities

Work such as this needs to be based on a preselection of what language varieties of a specific language to choose as the pedagogical norm. Such a choice might be made on the basis of the number of speakers of a certain variety, its urban or rural basis, the intelligibility or prestige of a certain variety for other speakers etc., that is on a principled set of sociolinguistic criteria.

Furthermore, as Amharic is a second language for many of the children who will be taught it, materials and methods need to be chosen that are informed by theories and methodologies appropriate to the status of the language as both first and second language.

Finally, English is a language with no infrastructure in Ethiopia - a bona fida foreign language - and this has implications for the form that language input in the classroom needs to take, as well as for the role model of the teacher.

In the following section, I will briefly review to what extent the materials and methods developed for the new curriculum can be said to fulfil its intentions as I understand them, and have presented them here.

Do the curriculum materials satisfy curriculum framing conditions?

Introduction

By way of introduction, I think it is fair to say that there is a strong tradition of language teaching in Ethiopia which comes across in all the language materials I have examined. Irrespective of whether the language being taught to pupils is their mother tongues, the 'national language', Amharic, or English, the approach to language teaching codified in the textbooks is quite similar. For this reason, I shall treat the Oromo and Amharic materials under the same rubric, Ethiopian languages.

I should mention one important caveat on the following analysis. It is based solely on a desk-top approach to the materials, as I have not been able to study how they are used in practical classroom contexts. This is obviously a limitation of the evaluation, and should be kept in mind when reading the text.

Ethiopian languages

The Ethiopian materials, I have had available for analysis comprise

textbooks from grade 6 in Oromo and from grade 1 and 6 in Amharic
teachers' guides for grade 1 and 6 for Oromo and Amharic

In the Amharic materials for grade 1, the main focus is on the teaching of reading and writing, and the greater part of the year is taken up with learning and consolidating the syllabic script used by the language.

More specifically, children are introduced to reading and writing by first being taught to distinguish different sounds (animal, human, mechanical), and then being asked to repeat the sounds of the syllabic script after the teacher. This methodology is clearly intended to train phonetic sensitivity, sound discrimination and articulatory prowess in children. Concomitantly with this, they are given a social training and discipline, by being taught common social routines (asking names, ages etc.) as well as being taught an introduction to activities of writing such as how to sit at the desk, hold a pen, position a writing pad on the desk etc.

Another aspect of early reading and writing methodology is for the pupils to distinguish geometrical shapes, and to verbally label the shapes (line, square, circle). They are subsequently required to draw shapes in their books.

Following this, students start to train the mechanics of writing the syllabic script. The learning of the different syllables also follows a "geometrical" progression, in that the shape

of the syllables determine in which order they are presented in the text and exercise book- similar shaped syllables are trained at similar points in time.

The types of classroom activity predominantly used with initial reading and writing is teacher-led, whole-class lessons. Peer-peer activities are also recommended in the teacher manuals at points.

From lesson 60, the syllables are synthesised to words, and words to sentences. This is accomplished in conjunction with pictures, where pupils are asked to name and describe referents and actions in the pictures, and where the teacher subsequently writes these on the board for students to copy into their books. Exercises in sentence construction also take place with substitution tables.

Reading is introduced by the teacher reading a set text followed by teacher-monitored individual student reading of the same passage. Students then answer set questions on the text. In some reading exercises, students are required to relate the contents *and sense moral* of the text to narratives from their own, real-world, lives. At later stages, pupils are taught to both ask and answer questions on a text using very different formats, such as, for example, multiple choice, true-false questions, fill-in-the blank questions etc. Boxes and substitution tables around the text constrain what written productions students do in relation to the texts. Some formal learning of grammar and vocabulary take place here; for example, words are exercised as paraphrase and synonyms, and structures for expressing comparison are taught.

The classroom interactions are often whole-class or individual pupil demonstrations. Peer-peer work occurs occasionally. Lessons are mainly teacher-fronted.

In grade 5, the bulk of the textbooks are taken up with the formal teaching of grammar and vocabulary. Sentence completion tasks, filling-in-blanks, substitution tables etc. are the tools employed for this. Students are also required to produce extensive written summaries on texts that they have read in the textbook. Occasional free writing on particular topics is also found.

From this very cursory overview, which can hardly do justice to the thinking that has gone into the books, we can conclude that the materials exhibit a traditional, structural orientation to language use and acquisition, and reflect a teacher-led, non-participatory philosophy of classroom practice. It is difficult to reconcile the technical or mechanical approach to learning to read and write which characterises the present materials with the approach to literacy which emphasises the contextualization of the acquisition of literacy practices in meaningful and meaning-bearing contexts. Quite the opposite in fact. The social meaning carried by the classroom activities around reading and writing are discipline and adult control.

Finally, with respect to the Amharic materials I had available, I found no incorporation of second language methodology into the selection or presentation of course content. On the

other hand, I had no materials from 3rd grade when Amharic is introduced to native speakers of other languages.

English

English is taught as a subject from grade 1 until grade 5. From grade 6 onwards, an important emphasis for teaching is to prepare students for use of English as a medium of instruction, which is planned to take place from grade 9. Two questions that immediately arise here is whether the introduction of English as early as grade 1 is educationally feasible and whether the pupils actually will be in the position to use English as a medium of instruction in grade 8. A related question is what levels of proficiency in English are possible to attain given the number of hours instruction prescribed by the curriculum. In this context, we will also examine the curriculum materials to see how they accord with curriculum goals and framing implications. A further question we will treat here in passing is whether 8th grade is the 'optimal' time to introduce English as a medium of instruction.

The decision to introduce English as early as first grade requires a specific stand on some theoretical and practical issues. A significant body of research has shown that early contact with a second/foreign language permits the learner to acquire the target language at native, or near-native, levels of proficiency, and attain a more idiomatic phonology, and grammatical competence. On the other hand, older learners initially acquire languages more rapidly, although they very often display less ultimate native-like language attainment. Older learners are also socially and cognitively more mature. One implication of this is that they are able to bring different and more varied types of learning strategies to the task of language acquisition, for example, more decontextualized learning strategies, which are appropriate to the classroom learning of language. Depending on the age of the learner, then, different pedagogies might be prescribed.

To this can be added the question of what implications an early introduction of a foreign language has for the acquisition of the *mother tongue*. Given the right conditions, there is of course no reason why children should not be able to simultaneously acquire two or more languages. One important factor is the great prestige that English, in the present case, has in Ethiopian society, giving rise to parental and community attitudes which encourage and support the early introduction of English. However, in situations where the use and vitality of a subordinate language is threatened by a dominant language, early contact with this latter language may accelerate language shift. In the Ethiopian context, where English is a foreign language with little infrastructure outside of certain formal institutions, there is no reason to believe that the status of the mother tongue or other national languages is in any way in danger.

From a practical point of view, introducing English as early as grade 1 requires that there are a sufficient number of trained teachers available at this level to teach the language appropriately.

English is studied on average 4 hours per week in the Ethiopian primary school. The level of language proficiency which Ethiopian children can be expected to reach must be considered against the number of hours of instruction. To my knowledge there is little research which will allow any firm conclusions on this point. However, it might be interesting to reflect on the evaluation work carried out on the Canadian early total immersion programs. In these programs, children are taught from grade 1 in a second language, French. At senior grades, these pupils display a remarkable fluency in using French communicatively and for a range of functions. However, despite the fact that French is a living language in these children's environment, and despite the number of hours structured exposure to the language that the children have experienced during nine years, their levels of grammatical proficiency attained in French, although native-like, especially in receptive skills, is far from idiomatic. If we further consider that a native-speaking child has already acquired approximately 8000-10000 words when s/he starts school, and that it is estimated that s/he will acquire an additional 3000 words/year during schooling (quoted *Viberg, 1993. Andraspråksinlärning i olika åldrar. Ceru, E. (ed).* ***Svenska som andraspråk.*** *Natur och Kultur:Stockholm*), and that the Ethiopian syllabus prescribes the learning of about 100-250 items per year (resulting in 950 words at grade 6), we should not expect too much from four hours instruction a week, especially if the availability of the target language outside of the school context is limited as it is with English.

How do the materials fit with the framing conditions and curriculum goals? The following comments are based on a review of available curriculum materials comprising

(a) a comprehensive syllabus (flow chart) for primary and secondary school,
(b) sets of syllabi for grades 1, 2 and 6,
(c) a document on the English syllabus for teacher training purposes produced by the TTI, and
(d) student textbooks for grades 2 and 6.

All the current materials conform to criteria for Type A, *synthetic* materials. The syllabuses for English comprise a list of which skills of listening, reading, speaking and writing that students at each grade level are expected to master. The basic units employed in the present materials are/resemble "communicative functions" such as *Presenting, Describing, etc.* (grade 1). Their order of arrangement would appear to be partly a reflex of

how complex the actual notions/functions are (for example, *summarising the logical progression of an argument* (grade 6) is clearly a more complicated and demanding "function" than *describing a picture* (grade 2)), and partly a consequence of the complexity of sentence patterns and grammatical structures required to express the function (for example, the same function/notion occurs at different grade levels, although employing more complicated syntax and lexicon. Assessment or criteria for mastery are defined in terms of these functions; pupils must be able to produce a number of examples of each sentence pattern/function.

The texts in the student books are constrained linguistically by the level of language that students are thought to master. For example, in a grade 2 written story, there is not one single question that uses the more idiomatic auxiliary *Do-support*. In other words, the language that pupils meet is not always idiomatic English, but a simplified variety designed for pedagogical use. Vocabulary is also graded and portioned out over chapters. Note is made in the materials, however that the vocabulary chosen is merely a "suggestion" and that teachers might wish to teach other lexical items. To the extent that the vocabulary taught is predetermined by the texts that are employed, the option given to the teacher of freely selecting alternative lexical items is clearly constrained.

Each lesson deals with specific vocabulary and language structure, often in the form of exercises such as paraphrase, synonyms, antonyms for vocabulary learning, multiple choice etc. for sentence forms. Charts, tables and other formal set-ups are used. In other words, the items focused upon are preselected by external authority. Furthermore, explicit teaching of grammar or focus on form is ruled out in these materials.

The activities that pupils partake of are also overwhelmingly of the structured type, where grammar and vocabulary exercises dominate. To a large extent, items of language are treated in a decontextualized way in the context of language exercises that have no or little relation to meaningful, negotiated communication or to language generated out of concerns that learners/pupils articulate and give voice to.

With respect to how well the materials fulfil the idea of a learner-centred curriculum as it is understood here, I think it is fair to say that these materials do not embody the perspective on the learner or reflect the understanding of language learning that is articulated in the Policy Document.

Will pupils be sufficiently prepared to use English as a medium of instruction in grade 8? Experiences from other African countries which have opted for mother tongue media of instruction with a transition to a metropolitian/ex-colonial language at later grades have shown that this is often far from the case. The experience of Tanzania is a case in point. The problems in English language teaching and the difficulties confronting students in using

English as a medium of instruction at senior grade levels in Tanzania are well summarised in Rubagumya 1990; . In effect, a recent evaluation concluded "that many secondary school students in Tanzania are being barred from access to knowledge as a result of the language barrier". Criper and Dodd (*Criper , C. & Dodd, W. 1984.* ***Report on the Teaching of the English Language and its Use as a Medium of Education in Tanzania.*** *Dar es salaam: The British Council*) claim that "throughout their secondary school career little or no information is getting across to about 50% of the pupils" (p.28). The solution that was suggested was a Reading Support program for the development of vocabulary and general academic language skills. Likewise, an evaluation of English language proficiency done by the Communication Skills Unit at the University of Dar es Salaam showed that problems persist up until University level; Criper and Dodd report that "less than 20% of the (University) sample tested were at a level where they would find it easy to read even the simpler books required for their academic studies (ibid:29). The university evaluation claimed that the students exhibited inadequacies in English language skills at "(a) the level of grammatical competence (syntax and lexis at sentence level) and (b) the level of communicative competence (discourse skills), i.e. "the organisation of essay writing, presentation of facts and arguments in an orderly fashion, style in academic writing /and/ appropriate reading strategies", quoted in Rugemalira, 1990:106).

Given facts such as these, the question arises as to whether an earlier introduction of English as a medium of instruction would ease the situation at later grades. Those who might advocate an earlier introduction of English would most likely do so on the grounds that the student needs more time with and practice in English in order to be able to use it for more complex academic and decontextualized functions. However, this view ignores the fact that the child will need to be able to learn academic content at whatever level English is introduced. Waiting until grade 8 before switching medium of instruction at least allows a simultaneous and certainly more satisfactory learning of academic content in mother tongues, during the time the pupils are also attempting to master English. Furthermore, research has it that skills and knowledge are transferable across languages.

One very important factor determining the nature of the transition in medium of instruction is the nature of the materials. Specifically how the materials integrate or accommodate academic/content-specific language. In the Ethiopian context, there is a shift of emphasis in the English materials from grade 5 onwards, when the syllabus contains an explicit pointer to the effect that language materials should not only contribute to the formation of pupils' communication skills (for everyday purposes), but also help prepare them for the use of English "for study purposes". Language associated with specific academic content or subject disciplines displays a variety of specific types and uses of vocabulary,

genre specific grammar, pragmatic strategies for introducing referents and structuring information, and types of texts. Content specific texts also require different approaches and techniques of reading, and are associated with different linguistic means for discoursing around facts and explanations. However, in the Ethiopian English materials, there is no coverage of such items. The main way in which pupils are prepared for use of English for study purposes is through exercises which focus on different ways of reading and summarising texts, and in the use of logical explanation.

Summary

Interestingly enough, none of the language materials that I have looked at here satisfy the criteria for being learner-centred, communicative and meaningful. One reason for this may be that the curriculum policy document is not explicit on what it takes these terms to cover, and that course writers have therefore had too large a leeway to design materials as they think fit.

Another reason is that touched upon earlier, the restraining hand of tradition. Implementing a new curriculum is no small task. It involves inserting new ideas into existing educational discourses and institutions, where different traditions of teaching and different conceptions of what comprises knowledge and its acquisition may prevail. In learner-centred participatory teaching, a central facet of teachers' and textbook writers' professional identity is undermined, namely the authority invested in them to determine what is to be taught, how and to what criteria of satisfaction. This may have led to teachers and textbook writers unconsciously rejecting or reinterpreting the basic postulates of a such a teaching philosophy.

Teacher training

Unfortunately, I have had very little information available on how teachers are trained for language teaching. The materials that I have seen related to teacher training witness to an ambitious and carefully constructed training program with components such as language acquisition, etc. However, what this means in practice, for example, in terms of substantive content covered is not clear to me. From the teaching manuals, it does not appear as though second and foreign language teaching methodologies are prominently represented. However, I would need to look more focusedly at this question.

Curriculum support infrastructures

All educational development work needs backup in the form of evaluation and research activities. In the present context, an important goal of evaluation work is to monitor how the intentions and thinking behind a new curriculum are practically articulated in materials and methods. A hallmark of a good evaluation, in my opinion, is translation and interpretation; In

order to be amenable to measurement and analysis, a curriculum philosophy formulated in general terms needs to be transposed into concepts and models from scientific discourse which allow precise and theoretically sophisticated discussion. Evaluative work, then, should ideally rest on a firm disciplinary foundation.

Three researchers, Biazen, Mengistu and Dissasa at The Curriculum Evaluation and Educational Research Division at the Institute for Curriculum Development and Research have produced an important document entitled *Readability of Primary School Textbooks.* This document is an ambitious discussion of the readability of Amharic, English, Mathematics, Science, Agriculture and Home Economics textbooks. It provides a systematic discussion on the quality of the illustrations, the difficulty of the texts, the quality of the exercises, the interest value to the students of how the information is presented, and the general appropriateness of the books. Data comprised student comprehension tests, measurements of variables, and teacher interviews and judgements, among others. For each book, the report provides a summary and a list of recommendations.

From an applied linguistics perspective, the evaluation suffers from a limitation through its somewhat narrow understanding of what constitutes readability. The main linguistic variables that the study takes to be related to reading difficulty are, for example, number of words, average word length (per unit page), average sentence length, type of sentence etc. However, by dealing with one or two salient structural variables, such an approach cannot take account of the fact that texts are complex, multidimensional constructs, where the composite contribution of many linguistic variables may be more important to pupils' reading experiences that any single set of variables on their own (see *Biber, D. 1991. Oral and literate characteristics of selected primary school reading materials.* ***Text,*** *11, 73-96.*). This is quite likely the reason behind those findings that demonstrate how simplifying texts by reducing sentence length and embedding, and by controlling for frequency of vocabulary seldom result in better reading performance.

In my opinion, this evaluation is a piece of solid work that would definitely have benefited from a theoretically more sophisticated understanding of text linguistics and more recent 'readability theory'.

Some recommendations for strengthening

From what has been said above, two conclusions may be drawn. On the one hand, there is an obvious discrepancy in the area of language between the formulation of curriculum philosophy and its practical implementation in materials, methodologies and teacher training.

On the other hand, the educational support networks that are currently available through Ministry institutions need upgrading.

With respect to the first problem, what would be desirable is serious consideration of how to best introduce curriculum novelties into traditional structures of Ethiopian education. This could be accomplished in the form of a longer term project which would work with developing adequate teacher training resources with a focus on materials production. Of great importance is to work for a greater integration between content disciplines and language, especially in English. The project would construct field sites in various schools in urban and rural areas in a representative selection of regions. Here, learner-centred, communicative classroom practices suitable for the cultural and traditional specifics of Ethiopian education would be developed and evaluated.

The second problem could best be amended by in-service training of current staff in the form of a refresher course in relevant disciplines of applied linguistics. These could comprise fields such as second language acquisition theory, classroom methodologies, quantitative and qualitative research methodologies, program evaluation and multilingualism. The course could be given as a Master's course in Education and Language.

5.3. **WIGGO KILBORN:** THE CURRICULUM MATERIALS IN MATHEMATICS

We have got three backgrounds for this part of the study:

* The national syllabi for grades 1, 2, 5 and 6
* Teaching materials for grade 1 and grade 5 in two of the languages, Amharic and Oromigna
* The results on assessment tests in grades 2 and 6 on the syllabi for grades 1 and 5

It is of course not possible to make a complete analysis of mathematics teaching in Ethiopia after just two weeks of work. We look upon this more as a pilot study. It should also be emphasised that the textbooks are written in two languages that are completely unknown to us. In order penetrate all details we would need a lot of time with persons who both know the languages and the cultures in which they are embedded and at the same time are familiar with how teaching processes look like. Very little information of this kind has been available. Nevertheless we can se some important patterns and in the syllabi and in the mathematics materials. For evident reasons, we shall mainly focus on what can be seen as possible weaknesses.

The Mathematics Syllabus for Grade 1

Already in the introduction we can read: "It is the duty of teachers to follow the guide outlined in the syllabus". We do not know what is really meant with this. On one hand it is important to establish a national standard and to guarantee every pupil a certain teaching standard. On the other hand however, there are probably many different cultures in Ethiopia that imply different needs and traditions. Perhaps it is not desirable to follow the guide to close? We will get another problem if the teachers follow the syllabus so closely that they dare not to adjust their teaching to the pupils' needs and pre-knowledge. It is not uncommon in Africa that teachers act in a very strange way, not taking the pupils pre-knowledge into account, just because they are afraid of the national inspectors. There is a danger that teachers loose their confidence as teachers and do not dare to try new teaching methods when the old ones are failing. Often, teachers do not even dare to spend more time in order to achieve important basic goals for teaching, even if the majority of the pupils have got learning problems.

Let us first look on some of the goals in the syllabus for grade 1. Under the heading "Objectives and Tasks" you can for example read:

... at the end of grade 1 ...

- The pupils know the sequence of the whole numbers up to 100.
- The pupils have grasped the fundamental operations of addition, subtraction, multiplication and division and ...
- The fundamental problems of addition and subtraction have to be committed to memory, so that they can solve addition and subtraction problems quickly and accurately...

We think these goals may be good, but we have one important question: Is it really possible for Ethiopian pupils to learn all the basic facts of addition and subtraction up to 20 by heart already in grade 1? This is an important question, because so much of what will happen later on in grade 2 and 3 will be based on this basic learning. We already know that the pupils in other countries have serious problems with this subject matter. In order for the children to learn these skills, their exercise should be sequenced and partitioned in a way that makes learning possible. Such exercise will take time, and it is doubtful whether the pupils are given sufficient time according to the pace set by the syllabus. The problem seems to be a philosophy that is shared with many other countries. In order to get good results, goals are set high. Such high goals are perhaps possible in countries with well-trained teachers and a long school tradition, but can be counter-productive when such conditions do not exist. It is utterly important to make sure that all or most pupils aquifer the basic mathematics skills before demands on learning are set higher.

In order to assess the outcome of teaching in grade 1 mathematics, we gave some very simple tests to the pupils in grade 2 (in December, almost half a term into the school year), The simple idea was to check if they, half a year afterwards, really could handle some of this important pre-knowledge for grade 2 mathematics that they are supposed to acquire in grade 1. We will return to these tests later on.

Next, the syllabus provide a "survey on the content", telling how many periods to spend on different types of subject matter. After that; the main part of the syllabus follows: "Content of Instructions". Here we can read in a strictly mathematical terminology what the teachers are supposed to do during the school year, when working with different subject matters. Again, we think that most these subject matters are acceptable, but two questions doubts should be expressed. The first one relates to the use of tables like the following:

a	2 + a

a	10 + a

a	b	b x a

Are the pupils in grade 1 really ready to cope with this type of algebraic matters and what is the point to do so already in grade 1? In modern didactics for mathematics, it is stressed that it is more important for the pupils in grade 1 to work with more informal items and to use everyday language during the mathematics lessons. The reason is that this will help them to connect school mathematics to experiences and modes of thinking used in everyday life. When pupils after some years have come to master the basic mathematical facts and have built up good thinking modes around these subject matters, then it is time to introduce a more algebraic type of language.

The second question is about teaching methods. Today researchers in the didactics of mathematics have got a huge experience to draw upon from how children learn mathematics and how to choose adequate teaching methods. The learning process is seen as equally important as what is learnt. In the syllabus, there is no reference made to such perspectives and teachers get no suggestions at all in this very important respect.

The last two paragraphs in the syllabus deal with teaching aids and evaluation. We can se the same problem once again. You can read about what type of teaching aids you are supposed to use in the classroom, but not how to use them and about what is the point of using them. What type of thinking modes are these material supposed to lead to? Often teaching aids are used primarily to solve the problems to be solved, not as an introduction to giving the pupils good thinking modes. If teaching aids are used in that way, pupils will go on using these teaching aids just for safety reasons. In that case they will be trapped in primitive thinking modes. The teaching materials will then be a serious obstacle to progression in mathematics learning.

The same doubts can be expressed in relation to evaluation. The syllabus states that the teacher is supposed to make different types of evaluation, but no ideas as to how to do this evaluation is given and what problems may occur. As an effect, the teachers could find it difficult to know whether the pupils have achieved the learning goals set by teaching or not.

The Oromo teaching materials for grade 1

The content of this textbook seem to step-by-step follow the national curriculum. If this really is the structuring idea, there is very little freedom left for innovations in the didactic approach or in teaching methods. This could mean a serious obstacle for developing the school system, both as regards adapting teaching to local cultures and as regards the improvement of teaching methods.

Since the sections in the text book step-by-step follow the national syllabus, we will here use the same division for making some commentaries.

The counting of numbers from 1 to 10

On the first pages, the numbers 1 to 5 are introduced. Here, writing a number seems to be more important than the number it represents. After that, it is time to order the numbers, using the signs >, < and =. Then the same procedure is repeated once again for the numbers 6 - 10.

Here, we have some comments: The content here is just about writing and ordering the numbers. In most other countries addition and subtraction are introduced after while. When for instance the number 6 is introduced, there are a lot of additions and subtractions at the same time. The idea is that this will give a more all-round picture of the numbers. At the same time this gives the possibility to connect the next number to the idea of "plus one", and show how it is possible to combine numbers by addition and subtraction. If good teaching methods and good modes of thinking are used already from the beginning, pupils will get a good start and a firm background for what is coming.

Another questionable things is that the number 10 is introduced (in written form) before the number 0 and that there are many written sentences already at the first pages in the textbook. It is doubtful that the pupils can read already at this stage.

Addition and subtraction of whole numbers up to 10

Now it is time for addition and subtraction, in the first step from 1 to 5 and in the next step from 6 to 10. Also here we have some questions: On page 26 we find the subtraction 1 - 1 = 0 although the number zero is not introduced. Another confusing item is 8 + __ = 11 on page 29 (the number 11 has not been introduced.) There are several mistakes like these in the textbooks.

From what we can learn from the syllabus and the teacher's guide, it is important to work systematically with these types of items and learn them by heart. The reason is that these basic additions and subtractions are the fundaments for all mathematics later on. But to learn

all these combinations by heart is not very easy for a child. Different pupils also have different capacity for learning. For this reason, it is very important to give the exercises a good structure and a good sequencing, in order to optimise learning. In the textbook, we can see no effort to help the teachers to do so. The teacher's guide says more about technical aspects than about what teaching methods could be used and in what different ways the pupils are supposed to think. As was earlier pointed out, during the last 20 years there has been lots of research work all over the world about young children's' thinking modes in mathematics. This type of research work has lead to better teaching methods and improved the learning of mathematics. This perspective has not influenced the teacher's guide.

The whole numbers up to 20

On page 47 the numbers from 11 to 20 are introduced as one bunch of ten pencils plus some more pencils. For us it is a little confusing why the number 20 is introduced already now. It seems to be more natural to introduce 20 on page 94 at the same time 30, 40 , 50 etc. are introduced.

Addition and subtraction of whole numbers up to 20

Here the same procedure is repeated as on pages 23 - 46, when addition and subtraction from 1 - 10 were introduced. Once again it is claimed that it is important to learn these items by heart and that it is important to exercise a lot. In fact there are a lot of items on page 61 - 76, but once again we lack a structure and a sequencing in order to facilitate the learning. One example of this is that no difference is made between items like 13 + 4 without passing ten and the more difficult items like 8 + 9 passing ten. When you solve 13 + 4 you can use and generalise the item 3 + 4: If 3 + 4 = 7 then 13 + 4 = 10 + (3 + 4) = 17. In the latter case you have to solve a quite new type of item. To be honest there are some items in the textbook like 9 + 1 + 2, preparing for 9 + 3, but they are very few. Another thing is that we think these pages must be very boring for these young pupils. Just figures and figures, almost without illustrations at all.

From our work in a other countries, we have learnt that a bad sequencing of this very important subject matters often lead to bad learning for the majority of the pupils. And if many pupils are lost here, it is very difficult (and in many cases impossible) for them to overcome these problems later on. This is a big threat against a democratic school system. One way to assist the teachers to handle these things is to help them to construct good tests and to teach them how to listen to and analyse pupils thinking modes. We find no effort to do so here.

Multiplication and Division up to 20

Multiplication is introduced on page 77 as repeated addition, 3 + 3 + 3 + 3 = 12; this can also be written as 4 x 3 = 12. If this is meant as a structure, an idea for multiplication, it is a little confusing that also 3 x 4 = 12 without explanation! To be logical, there ought to be a step in-between, informing that 3 x 4 = 4 + 4 + 4 and that also this equals 12. After having seen more examples like this one, it is possible to suspect that we have got a law here, telling that a x b = b x a. We think however the pupils are a little to young for this.

On page 83 we find the first division. In the first step 6 candies and 8 apples are shared by two persons. Later on 15 things are spread out in 3 groups with 5 in each. Here, the textbook tells us, it is possible to se that 5 x 3 = 15 and that 15 : 3 = 5. But cannot this be a little confusing? From the beginning 5 x 3 was introduced like 3 + 3 + 3 + 3 + 3, but here the illustration rather shows us 3 x 5 = 5 + 5 + 5! In our opinion it is extremely important to be logical here if we want to give the pupils a good idea of what mathematics is about. Every time we are inconsequent, some pupils loose confidence for the subject. Again the introduction is followed by a lot of exercises without sequencing and structure. We doubt that the pupils can use these exercises for learning the multiplication facts by heart.

The whole numbers up to 100

The content is about how to write and order the numbers, and also how to add tens and units like 40 + 3 = 43. We think that it is a good idea to introduce these numbers in grade 1 but not to calculate with them now. The pupils can use this knowledge as pre-knowledge in grade 2, after some repetition. We also think it is a wise decision to use the coins to concretise the numbers. The pupils could that way get a repetition of the number system, every time they visit a shop.

Geometry

One problem with geometry in grade 1 is, that to many pupils still has got motoric problems. As we have no experience on working with this type of geometry in grade 1 it would be necessary to follow the teaching process to be able to give any comments. In our opinion however this type of geometry is a little to formal for these young pupils.

The Amharic teaching materials for Grade 1

In one sense the content is the same as in the other textbook. Paragraph for paragraph it follows the national syllabi. But there are also some important differences. This textbook is completely hand-written and not so professionally printed, but instead of the very small

figures and tiny illustrations in the Oromo textbook we here find big figures and illustrations, better fitting to the age of these very young children.

The counting of numbers from 1 to 10

When introducing the numbers 1 to 5 the value of the numbers comes before writing the numbers. There are also some simple additions telling how it is possible to combine the new number with help of the others. The numbers from 6 to 10 are introduced one by one in the same manner with some simple additions after while. We prefer this type of strategy to the strategy in the Oromo textbook. This way it is also simpler to give the = sign a better explanation. Here it is possible to write 2 + 3 = 5 rather than the pointless 5 = 5. Here too the number 10 is introduced (in written form) before the number 0. Perhaps the reason is that zero is forgotten in the syllabi and for that reason also in the textbooks.

Addition and subtraction of whole numbers up to 10

Now it is time for more systematic addition and subtraction. In the first step there are just four pages of addition all the way to 10. After that there are a few pages on subtraction . When subtraction is introduced, there is all the way a clear connection between addition and the corresponding subtraction. For instance 3 - 1 = 2 is followed by 2 + 1 = 3. Now at last, it is time to introduce the number 0 as the solution to the subtraction 2 - 2.

The content of the following pages is about exercises in addition and subtraction. The number of exercises are far to few and there is also a lack of good structure for learning. In this textbook there are also a lot of items of the type

a	2 + a

a	10 + a

a	b	b x a

We cannot se the point for this in grade 1, but we have already pointed out that these exercises are recommended in the syllabus.

In this textbook there is another interesting thing. On pages 48 and 49, there is suddenly some exercises in geometry, about measuring. Perhaps just to make a short brake in the arithmetic course? We like this. In some countries there is always geometry at the end of the textbook - and the teacher will never reach these pages!

There are also some confusing items in the textbook like 8 + __ = 11 on page 29. (The number 11 is not introduced.)

Just as in the Oromo materials, the teacher's guide informs that it is very important to work systematically with these types of items and learn them by heart. Again, children can only learn to master this kind of calculations mentally, if they are provided with carefully structured and sequenced exercises. We can see no effort to provide such exercises in this textbook either. Again, the teacher's guide gives much more technical information than information about what teaching methods to use and in what different ways the pupils are supposed to think.

The whole numbers up to 20

Once again number 20 is introduced already now, and once again we think it to be more natural to introduce 20 later on at the same time 30, 40 , 50 etc. are introduced. Why not stop at 19 this time?

Addition and subtraction of whole numbers up to 20

On these pages there are a lot of exercises of different kinds. We think however that these exercises are to few and that they are badly sequenced. We doubt that the pupils this way could learn the basic facts by heart.

In this textbook we can observe another important thing, additions like 14 + 3 without passing ten are separated from and introduced before items like 8 + 9 . The latter type of exercises are introduced with items like 8 + 2 + 7 in order to give a good mode of thinking. But again there are very few exercises, far to few for the pupils to learn these important basic skills by heart. Also in this book there are a lot of formal mistakes. Exercises like 20 + 1 and 6 + 18 are not solvable if only the numbers up to 20 are introduced.

Multiplication and Division up to 20

Multiplication is introduced both as a repeated addition and as a pattern. The multiplication 2 x 3 is for instance illustrated as 2 groups of 3 cubes and 3 x 2 as 3 groups of 2 cubes. Later on division is connected with multiplication for instance 6 : 2 = 3 and 3 x 2 = 6.

The whole numbers up to 100

Like in the other textbook this paragraph begins with the tenths from 10 to 100 and the content is primarily about how to write and order the numbers, and how to add tens and units like 40 + 3 = 43. There is also a connection to coins.

Geometry

The introduction is here more concrete and applied to real life. Squares, rectangles, and circles are connected to houses, rings etc. Parallel lines are introduced from the legs of a table. After this introduction there are some more formal items about lines and angels. We think this step is a little to formal.

The last 8 pages in the textbook is a form of systematic repetition.

The assessment tests in Grade 2 on the syllabus for Grade 1

In order to get a picture of the outcome of the teaching in grade 1, we made some assessment tests of items of the following types (see Appendix D for the full test):

In addition: 15 + 1, 2 + 15, and 13 + 4.
In subtraction: 17 - 2, 17 - 16 and 18 - 5.

Pupils who know the fundamental additions and subtractions up to 9 by heart, and who understand the most elementary rules for mathematics, will have no problem to solve these 24 items in less than 3 minutes. Pupils who are still counting on their fingers or using other primitive modes of thinking, will have big problems to solve all these items in time. Observe that there are only items in the area 1 - 19 and in no case an item passes 10. These items should be rather simple already at the end of grade 1. In fact we gave these items in December in grade 2. It is fair to assume that pupils who still have problems with these items in grade 2, will have even more problems later on in grades 2 and 3.

In normal cases, we use to follow up tests like these by clinical interviews, in order to study what types of thinking modes the pupils use. This was not possible here because of time constraints. The following table shows the results per school:

Basic facts: Addition and Subtraction in grade 2

Schools	Ewkete Chorra	Dubti	Assosa	Bambasi	Danka-kaa 1	Danka-kaa 2	Dilcibo	Overall sum	Percent
Number of corr items									
0 - 4	2	6	8	5	4	10	15	50	18,25%
5 - 8	3	12	8	4	4	15	8	54	19,71%
9 - 12	4	2	8	16	12	11	9	62	22,63%
13 - 16	3	2	2	10	6	8	20	51	18,61%
17 - 20	2	1	0	4	8	1	4	20	7,30%
21 - 24	5	2	0	8	9	2	11	37	13,50%
Sum	19	25	26	47	43	47	67	274	100,00%

From this table it is clear that about 60% of the pupils in grade 1 only are able to get at most 12 addition and subtraction items out of 24 correct in 3 minutes. This is a result very far from what is expected in the syllabus. In our opinion only 13,5 % of the pupils have reached the goal set by the syllabi. As has been pointed out earlier, the reason for this problem is probably the lack of proper sequencing of the items and also bad teaching methods. As a consequence, the majority of the pupils use bad an uneconomical modes of thinking.

In the next part of the test the pupils got 9 items in multiplication, type 6 x 3, and 9 items in division, type 18 : 6. (See appendix E.) Also here the pupils got a time limit of 3 minutes. Once again, if the pupils really know these facts by heart, they would have got plenty of time (12 seconds per item).

Basic facts: Multiplication

Number of corr items	*Ewkete Chorra*	*Dubti*	*Assosa*	*Bam-basi*	*Danka-kaa 1*	*Danka-kaa 2*	*Dilcibo*	*Overall sum*	*Percent*
0	6	7	14	18	16	23	28	112	40,00%
1	1	0	3	1	4	5	5	19	6,79%
2	1	1	1	1	3	4	7	18	6,43%
3	0	11	0	4	1	4	3	23	8,21%
4	0	2	1	2	4	5	6	20	7,14%
5	1	1	4	2	2	0	3	13	4,64%
6	4	1	0	3	3	1	3	15	5,36%
7	2	0	1	3	2	2	5	15	5,36%
8	1	0	1	3	1	1	8	15	5,36%
9	3	2	1	10	7	2	5	30	10,71%
Sum	19	25	26	47	43	47	73	280	100,00%

Basic facts: Division

Number of corr items	*Ewkete Chorra*	*Dubti*	*Assosa*	*Bam-basi*	*Danka -kaa 1*	*Danka -kaa 2*	*Dilcibo*	*Overall sum*	*Percent*
0	10	11	25	29	22	36	52	185	67,52%
1	4	8	1	6	8	7	5	39	14,23%
2	1	3	0	4	4	2	6	20	7,30%
3	2	0	0	1	3	0	0	6	2,19%
4	0	2	0	2	1	1	2	8	2,92%
5	1	0	0	2	1	0	0	4	1,46%
6	1	1	0	3	4	1	2	12	4,38%
Sum	19	25	26	47	43	47	67	274	100,00%

Here, the result is still more remarkable. 60% of the pupils have at most 3 items correct and only 11% have got all 9 items correct in multiplication. The results in division are more

or less uninteresting as the majority of the pupils never had time to solve any item. We have already declared what we think are the reasons for this bad result, when we looked upon addition and subtraction.

Let us sum up. After about half of the second school year, the majority of the pupils have still got serious problems with basic arithmetic facts. These subject matters ought to have been settled already in grade 1. As the goals in grade 2 and later on in grade 3 are on a higher level, it is not easy for those children who have problems with basic arithmetic facts to learn this at the same time as they work with still more complicated things. At the same time these basic facts are extremely important as pre-requisites for adding, subtracting and multiplying in algorithms. In our opinion there is a lot to gain in putting more attention to this important basic knowledge and perhaps delay some subject matters to grade 2 and 3 in order to give the pupils better possibilities to cope with mathematics later on. To spend more time at the beginning could mean to save a lot of time and effort later on.

The Mathematics Syllabus for Grade 5

The objectives in grade five are rather tough in our opinion.

> At the end of grade 5 the following level of subject-typical knowledge and capability has to be achieved:
> - ... solid knowledge of whole numbers and ... the four fundamental operations ...
> - The students' skills in oral and written calculation with whole numbers is further developed ... divide (in writing) by a two digit divisor ...
> ...
> - The students know how to add subtract and multiply decimals. They can order, add and subtract simple common fractions with the same denominator.
> - ... length, mass and time. ... convert quantities from one unit to another by using common units.
> - ... perimeters and areas of rectangles as well as surface areas and volume of rectangular prismas. ...
> - ... approximate values ... rounded off.
> - ... axial-symmetric ...

Under the heading "Outline of the subject matter" you can read that the pupils in grade 5 are supposed to work with among other things:

3.2.2. Addition and subtraction of simple fractions with different denominators ...

3.2.3. Multiplication and division of decimals.

Like in the syllabi for grade, 1 we find here only comments on subject matters. Again we cannot find any hints about what teaching methods to be used or what type of thinking modes pupils are supposed to use. In other words, developers of teaching materials and teachers get no help to plan and organise lessons or to choose methodology. We also think the expectations on the pupils are a little to high for grade 5. For that reason we constructed some test, assessing the goals for grade 5. These tests were given to pupils in grade 6 in December, 1995. We return to them later on.

About the teaching materials for Grade 5

Two textbooks for grade 5 have been available for study, the ones for the Oromo and Amhara regions. For language reasons we have not had possibilities to penetrate the books page for page. But from what we can see, the content of the two textbooks closely follows what is prescribed in the syllabus. The main differences between the two books are similar to the items found for grade 1: the Oromo text book is printed, contains a lot of exercises and also a lot of miss-printings on almost every page. The latter is particularly true for the pages on division and fractions that could give the pupils big problems. The Amhara book is hand-written and contains very few exercises. A teacher who use this book have to construct a lot of items on his (her) own.

The assessment tests in Grade 6 on the syllabus for Grade 5

If there are too high expectancies on the pupils, they will of course have problems to reach the goals set up by the syllabi. This, in turn, will lead to problems with at least some of these goals. If, in the next step of teaching and learning, these goals constitute pre-knowledge for further learning, there will be a continuos problem that is very tricky to handle. Two areas of this sort are multiplication of the type 47 x 389 and division of the type 2886 : 26. If the pupils do not know the multiplication table by heart, they will have problems in both these areas. If, further, a pupil already has problems with multiplications like 7 x 389 or with divisions like 2886 : 6 he or she will have twice as many problems with 47 x 389 or 2886 : 26.

Still another problem is that pupils who cannot handle multiplication and division of natural numbers will have still more problems with decimal numbers. And if the pupils

cannot handle basic calculation there will be still more difficulties in problem solving. To assess the status in this field, we chose in one part of the test on the grade 5 syllabus 6 items like 7 x 389, 3 items like 47 x 389 and 6 items like 2886 : 6. We did not use items like 2886 : 26 because we expected big problems already on the simpler type of division. (See appendix F.)

Multiplication type 7 x 389

	Ewkete Chorra	*Dubti*	*Bambasi*	*Dankakaa*	*Dilcibo*	*Overall sum*	*Percent*
Number of corr items							
0	12	4	6	5	8	35	20,35%
1	6	2	4	3	5	20	11,63%
2	6	4	6	4	8	28	16,28%
3	1	4	6	1	5	17	9,88%
4	5	9	11	4	7	36	20,93%
5	2	1	8	2	4	17	9,88%
6	1	0	10	3	5	19	11,05%
Sum	33	24	51	22	42	172	100,00%

Multiplication type 47 x 389

	Ewkete Chorra	*Dubti*	*Bambasi*	*Dankakaa*	*Dilcibo*	*Overall sum*	*Percent*
Number of corr items							
0	23	16	17	12	19	87	50,58%
1	8	4	19	5	9	45	26,16%
2	1	2	8	2	8	21	12,21%
3	1	2	7	3	6	19	11,05%
Sum	33	24	51	22	42	172	100,00%

According to the syllabus for grade 5, pupils are expected to "possess solid knowledge" on these types of items. Against that background, the results are a little depressing.

In multiplication like 7 x 389, about 55% of the pupils have 3 items (out of 6) or less correct. 20% of the pupils did not have one single item correct. As these types of items are

pre-knowledge to items like 47 x 389 we could expect still more problems here. In fact 50% of the pupils had not one single item of this type correct and another 25% of the pupils only one single item correct! One problem here is that the pupils had only 10 minutes to solve all the 9 items. On the other hand this means about 1 minute per item. If the pupils really "possess solid knowledge" here this ought to be enough.

Division type 2886 : 6

	Ewkete Chorra	*Dubti*	*Bambasi*	*Dankaka a*	*Dilcibo*	*Overall sum*	*Percent*
Number of corr items							
0	27	10	14	8	23	82	47,67%
1	2	7	9	4	3	25	14,53%
2	1	1	6	1	5	14	8,14%
3	1	2	5	1	3	12	6,98%
4	2	0	3	4	3	12	6,98%
5	0	2	5	2	1	10	5,81%
6	0	2	9	2	4	17	9,88%
Sum	33	24	51	22	42	172	100,00%

The results on division were still more depressing. On items like 2886 : 6, about 45% of the pupils had not one single item correct (out of 6) and another 15% just one single item correct. As we suspected it was no point in giving items like 2886 : 26 on the test. On this part of the test the pupils had another 10 minutes. That represents 100 seconds per item.

On this part of the test we had some problems. After the first 10 minutes (the multiplication part) the pupils were told to stop multiplying an start to divide. As we can notice on the tests sheets, a lot of pupils solved very few items in division. It is possible that those pupils for some reason went on multiplying.

The second test is about addition and subtraction of fractions. The items are constructed in a way that give information about three different steps:

1/5 + 2/5 1/4 + 3/8 1/3 + 2/5 and

5/6 - 1/6 3/3 - 1/6 4/5 - 1/2 (See appendix G.)

The pupils got 10 minutes to solve these 6 items.

Addition of fractions

	Ewkete Chorra	*Dubti*	*Bambasi*	*Dankakaa*	*Dilcibo*	*Overall sum*	*Percent*
Number of corr items							
0	23	10	9	5	31	78	45,35%
1	9	11	10	5	8	43	25,00%
2	1	1	6	2	0	10	5,81%
3	0	2	26	10	3	41	23,84%
Sum	33	24	51	22	42	172	100,00%

Subtraction of fractions

	Ewkete Chorra	*Dubti*	*Bambasi*	*Dankaka a*	*Dilcibo*	*Overall sum*	*Percent*
Number of corr items							
0	11	10	7	5	28	61	35,47%
1	11	10	10	5	9	45	26,16%
2	11	2	10	4	3	30	17,44%
3	0	2	24	8	2	36	20,93%
Sum	33	24	51	22	42	172	100,00%

As we can se from the tables, more than 65% of the pupils had serious problems in adding fractions. They had only one item or less correct. In subtraction about 60% of the pupils had the same problem. One interesting observation here is that the schools in Bambasi and Dankakaa have much better results than the others. In Bambasi about 50% of the pupils have got 3 items correct in both addition and subtraction, and the results in Dakakaa is almost the same. This observation could give us an important hint: why not try to find out the reason

why these two schools are superior?. We could possibly learn something useful about teaching and teaching methods.

One problem with fractions is that many pupils use bad modes of thinking because of misconceptions. By analysing the answers it is possible to check the frequencies of these misconceptions. The most common misconceptions in addition are

1/4 + 3/8 = 4/32 that is (1+3)/4x8 or	1/4+ 3/8 = 4/12 that is (1+3)/(4+8)
or	
1/4 + 3/8 = 4/8 that is (1+3)/8 or	1/4+ 3/8 = 3/12 that is (1+3)/(4+8)

In subtraction there are the same types of misconceptions.

After a short check we learnt that about 30% of the pupils used at least one of these strategies at least once. At the same time we realised that we made a big mistake when constructing the tests. (Unfortunately we had no possibility to make a pilot test in Ethiopia before we applied the tests.) The mistake appears in the item 21. 4/5 - 1/2. The correct answer is 3/10 because 4/5 - 1/2 = 8/10 - 5/10. But a lot of pupils had only this single item correct because they probably used the strategy 4/5 - 1/2 = (4-1)/5x2 = 3/10. All these pupils have of course got 1 item correct in the table above, because the answer is correct and we cannot tell who has used a correct strategy or not.

Let us end this section by pointing out that fraction gives the pupils big problems all over the world and that the results in two of the schools here give us a good hope for the future.

Summary

To summarise, the national syllabi for grades 1 and 5 are obviously too demanding in relation to the conditions for teaching, at least if we are to judge from the results from assessment test. Further, they are restricted to giving technical descriptions of various subject matters and say little or nothing on teaching methods or methods for evaluation. Its is particularly serious that they do not open any perspective as to what kind of thinking modes that teaching should promote among the learners. Further, the give few hints as to how to structure and sequence exercises in vital subject matters.

The teaching materials follow very closely the syllabi and, being little innovative, show the same kind of shortcomings.

A general comment should be made. If the main objective of mathematics teaching in primary education is to give the majority of the pupils a solid mastery of basic mathematical skills, and not to select and prepare a minority of pupils for higher grades, then probably the whole philosophy lying behind the current syllabi and teaching materials must be reconsidered. If the first objective should be met, the main concern must be to make sure that new subject matters are not introduced before the majority of the pupils have acquired the necessary pre-knowledge. This would imply developing teaching materials that are adapted to pupils modes of thinking in mathematics, as well as to the existing teachers, that contain sufficient and carefully structured and sequenced exercises, as well as at least some instruments for individualised teaching and adequate evaluation instruments that the teacher could use to evaluate his/her teaching and the individual pupils. It would also most probably mean that the demands on new subject matter to be presented in the first grades of primary education must be reduced, in favour of a continuous adaptation of teaching to the learning of the pupils. The current curriculum materials in mathematics for primary education in Ethiopia contain no visible strategy of this kind. This is probably one of the factors that explain why the results on the assessment tests are so far below the goals set up by the syllabi.

5.4. **OLEG POPOV:** THE CURRICULUM MATERIALS IN SCIENCE

Introduction

Pupils study Science - that includes health, environmental and technological issues - starting from Grade 1. The centrally produced curricula are based on the modern view that science education is more than rote-learning, that it includes a set of skills and processes for working with a body of knowledge and for making sense of the world.

However, in most curriculum materials the overwhelming emphasis is still on the *content* of science. The objectives of the new syllabus remain relatively academic and the pace and the level of the introduction of new subject matters correspond to the highest standards of science teaching in the industrialised countries, with a content slightly adapted to local conditions.

There are many good ideas and intentions embedded in the curriculum materials but there is also a visible lack of consistency, tidiness and integrity. Neither diagnostic assessment nor studies of pupils' conceptions seem to have preceded their development. Curriculum development is not backed-up by educational research.

On the base of the analysis of available materials it is possible to identify a gap existing between the established goals, student profiles and recommended assessment procedures, on the one hand, and prescribed science teaching methodologies, both in teacher training institutes and in the primary school teacher's guides, on the other hand.

As a consequence, some declarations in the curriculum policy documents seem to lack the corresponding procedural mechanisms for their own practical implementation. In the general profile of teachers, defined in the Education and Training Programme[14], it is for example said that teachers should become *facilitators in community development activities,* but community development issues are not included in the teacher training syllabus. The development of new textbooks is not accompanied by teacher training in working with new texts. Some parts of the new textbooks seem in fact to be very dense and hard to penetrate.

Science curriculum for teacher training institutes

In instruction, three matters are of key concern: content, teaching-learning and evaluation. All of them are presented in the curriculum guide for TTIs. It is said that the selection of content should be based on the needs of the people and that teaching and learning should be done in

[14]see Education and Training Programme. / Short term plan for developing and implementing the new curriculum. ICDR. 1994

accordance with nature of the learners. This seems also to imply that relevant knowledge and skills that the learners are likely to possess should be utilised. Let us see how these ideas are materialised in the present curriculum recommendations for training of primary teachers at TTIs.

From a first glance at the Module 2 - **Science subject matter** - it is possible to see that it contains very condense contents to be taught during a very short time. For instance, for the study of the unit "The basic structure & matter" (page 21) is allocated only one period (45 min). This unit contains a several abstract and complex concepts that students should be able to cope with, broadly exemplify and be evaluated upon, such as matter, structure, atoms, elements, compounds, mixtures, etc. This is an extremely difficult task, especially for students who may not have studied Science at high school.

The priorities for selection of the subject matters could also be questioned. For instance, the syllabi for the TTIs do not explicitly mention the concept of "photosynthesis", which is introduced in Grades 2 and 4 in primary school. It is quite problematic to understand the meaning of this concept for students of age 11 or 12. However, from the syllabus it is not clear if the trainees will study this concept at all.

There is an uneven level of didactic support for teacher trainers as concerns the headings "teaching method" and "teaching aids" in the syllabus. For instance, one of the recommended teaching methods, *"presentation by the instructor"* (pp.22, 26, 27), is not accompanied by any hints for the instructors as to the forms of such presentation. In other cases, more developed instructions are offered, as for example on pages 23-25 concerning chemistry matter[15]. However, all the recommended methods are reduced only to "presentation" and "discussion". Group work is recommended a couple of times as a part of evaluation (pp. 19, 30, 32), but not as a teaching method. The methods of teaching Science at TTIs advanced by the curricula to no little extent promote a teacher-centred approach.

It is interesting to notice that evaluation does not very consequently presuppose individual assignments for the trainees and control of home assignments. Continuos assessment is mentioned just occasionally (e.g. on page 28).

For some units (e.g. on "motion, force and energy"), there are no teaching aids recommended at all, and only sporadic suggestions about the use of locally available materials (e.g. p. 30) appear in the "teaching aids" column. No concrete locally available equipment or material is recommended for the teaching of such topics as measurement, light,

[15]It creates impression of the lack of consistency in the syllabuses.

sound, etc. This is a worrying signal of *"context blindness"*. It is sometimes quite impossible to understand if the materials were written for Ethiopia or any other country in the world.

The Module 3 - **Methods of teaching primary school science** - represents just a more or less elaborated list of different methods that could be used in Science teaching. The content of Module 3 is not connected to the content of Module 2. A general impression is that they were designed to be taught by different instructors. Trainees themselves *study* science at the TTIs in traditionally teacher-centred ways, but are at the same time expected to learn how to teach science in primary school using a variety of modern methods.

In the process of further development, this module should if possible also contain much more discussion of how Science teaching methodology can be adapted to teaching in big.

Pedagogical methods for assessment should be also more elaborated. It is for example very unclear how a *project work evaluation* can be performed, which consists in asking "the student teachers to bring different indigenous three seedlings from their home-street and plant them in school compound" (p.43)

The main objective of the module 4 - **Improvisation and production of science teaching aids** - is "to give the teacher some hints on improvisation of certain teaching aids using locally available materials" (p. 53). Less than 20% of all teaching time is allocated to this module. It is assumed that if teachers will get to know (*"get some hints"*) how to produce simple teaching aids, they will automatically engage themselves in improvising science equipment in schools. But between *knowledge* and practical *behaviour* there is unfortunately a gap. Teachers should not only be informed about the importance and value of locally developed materials but must acquire developed skills, experience and habits to do this kind of work.

According to the *Education and Training Programme,* teaching methods at all levels of education should be grounded on a "problem solving approach". In one of the regions, a handbook on **"Science teaching through problem-solving in the primary schools"** was even prepared for training purposes. Even if this initiative is worth all possible merit, the lack of practical experience shines through - the training module is too general and has restricted value for teacher training. Two main critical points should be made in this context. Firstly, if materials for TTIs should be in line with primary school curricula[16], then perhaps the most important thing is that methods and content should firmly address the specific topics that

[16]see Science curriculum guide for TTIs, ICDR, March, 1995.

appear in the school syllabus. It is not effective to give general descriptions of the problem solving method, without founding them in methods for dealing with concrete scientific phenomena in real life-situations. Teaching materials for the TTIs should probably much more specifically aim at relating science topics to the question of how these topics could be learned under the constraints that are typical for Ethiopian primary schools. It would not be possible to cover every topic in the science syllabus, but trainees should get a concrete experience of and feeling for how a particular method can be applied in specific situations.

Secondly, when curriculum materials developers in Ethiopia use foreign bibliographical sources, it would be more adequate to recur to existing African science education literature than to European or American, for instance to the literature developed within the African Primary Science Programme. If this was done, many inappropriate examples could be avoided, such as the problem of *melting out ice on the schools steps by scattering salt..*

Some recommendations could be made on the basis of this brief analysis of the Science curriculum materials for the TTIs:

- Curriculum materials should be more articulated as Ethiopian and African.
- Teaching of Science Subject Matter at TTI should be done using participatory methods that trainees are supposed to use in their future work in schools (i.e. on the basis of modules 3 and 4).
- A student-centred, participatory approach should dominate at the TTIs.

National curricula for primary Science

Basic science curriculum for Grade 1

The syllabus for Grade 1 recommends a lot of group work and hands-on activities, e.g. making electric light (using the science kit) or keeping and studying small animals (like birds and fish). This is good, but how do these recommendations work out in practice? Do conditions allow these activities, or does the syllabus just pay lip service to the modern trends in science education? We cannot give any response to these questions, without studying teaching in Ethiopian primary schools, but they are nevertheless important to formulate. On the base of international experience it is possible to foresee some pitfalls for teachers and students on, for example, such topics as *light* and *sound*, that appear repeatedly through-out primary school, starting from Grade 1. Many primary teachers in industrialised countries - like for example England - complain that their own background-knowledge of many physical

science concepts like these are limited.[17] This makes these topics very unpopular among teachers. Problems with the initial introduction of such concepts in primary teaching also frequently lead to misunderstanding and misconceptions, as many international studies show[18].

Primary teachers over the world are poorly educated in science. The content of science frightens them and as a result they lack the confidence needed to adopt a 'hands-on', enquiry-based approach to teaching science. In that context, the use of *science kit*-based demonstrations for teaching phenomena such as *light* and *sound* seems problematic, since it may be taken as a way of doing away with the concepts without understanding them.

Basic science curriculum for Grade 2

According to the authors' introduction to the syllabus, the new curriculum can only be successful if the conditions prescribed in the New Education and Training Policy really will be found in the schools. This seems to imply that the new curriculum was developed for an ideal pedagogical context. Indeed, some of the objectives formulated in the syllabus, for example that pupils in Grade 2 "should be able to describe terms as solute, solvent and solution and solubility" (p.14) and study physical properties of substances like thermal and electrical conductivity (ibid.), really demand an ideal educational situation.

Content is saturated with scientific concepts that demand high ability for abstraction and imagination, e.g. metals and non-metals, conductors and non-conductors, energy and energy transformations, etc. Pupils should know some "important non-metals like oxygen, nitrogen, carbon, sulphur" (p.20), and be aware that "charcoal, graphite and diamond are different forms of the non-metal carbon" (p.21).

Basic estimations and measuring skills are normally recommended to be developed during the latter part of the first cycle of primary education (1-4)[19]. In the Ethiopian syllabus these activities are recommended to start already in grade 2.

An observation concerning technology education issues could be done here. As we can see from the **Flow Chart** and syllabi, the primary science curriculum includes a technological element - the first and the last units are dealing with these issues. However, before Grade 5 the essence of *technological method* is not described.

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[17]see Terry Russell, Anne Qualter & Linda McGuigan. Reflection on the implemetation of National curriculum science policy for the 5-14 age range: findings and interpretations from national evaluation study in England. Int.J.Sci.Educ., 1995, vol.17, no.4, 481-492.

[18]see Osborne R. and Freyberg P. Learning in Science. The implications of children's science. Heinemann. 1992.

[19]see for example: An approach to developing a flexible core curriculum for Science and Technology. Compulsory general education. - Editors: Marissa Rollnick, Peter Glover, Peter Moodie. Centere for education policy development. South Africa. January 1995.

Basic science curriculum for Grades 5 and 6

The subject matter that is included in the Ethiopian syllabi for grades 5 and 6 is in many other countries part of secondary education. This curriculum is also very ambitious in its demands for pupils and teachers. For instance, the study of the composition of air is recommended, as well as experiments on detection of carbondioxide, a quite deep study of types of heat energy transference, etc. In the case of the text book for grade 5 developed in the Amhara region, sugar auto-regulation in the human body is illustrated by a hydro-mechanical model. This kind of analogues demands a highly developed ability of abstract thinking that 11 or 12 years' old children normally are not capable of.

The curriculum content for Grade 6 corresponds to grade 9 level in for example the Mozambican secondary school science curriculum. Mozambican students at this higher level hardly understand these subject matters, especially in Chemistry, because of its complexity and because of inadequate teaching. It could be assumed that in-service training of high quality would be needed if primary school teachers should be able to cope with the high demands of the new syllabus.

The teaching materials in Amharic

The Science syllabi in Amharic that were used for the development of teaching materials in this language are slightly modified versions of the syllabi in English developed by the ICDR. Moreover, the content of the Science textbooks follows quite strictly the prescriptions made in the syllabi. Let me here - for the sake of being provocative - refer a statement made by the Amharic interpreter assisting in the analysis of these materials: "When I look through the textbooks, I can recognise that I have studied this content but I don't remember anything. It is probably very useful for those who choose to be a scientist, but I am an economist and I never in my life came across these topics after I finished school".

Textbook for Grade 1

Starting from the first weeks of teaching, the textbook for Grade 1 has about 250 drawings which are accompanied by texts, questions and legends. The design seems to be based on the assumption that children should be able to read and understand the meaning of words before they start in Grade 1. In other words, it seems to presuppose that grade 1 pupils have acquired basic reading skills in pre-school or non-formal contexts. If this is not the case, many children will have difficulties in coping with the text book.

In the first half of the book, pupils are presented with drawings of about 50 different species of living beings, from mosquitoes to human beings. The world of plants is presented in a slightly less extensive form. It seems fair to say that the book is over-saturated with information, imbedded in the drawings. Perhaps it would here be accurate to propose the principle **"less is more"**, meaning that children should learn less content, but with a better understanding and a sound acquisition of learning skills (related to *inquiry*-learning).

The quality of some drawings should also be improved, taking into account the limited reprographic quality of the equipment used for multiplying - pictures saturated with black paint and many small details are difficult to reproduce with a good quality.

For this text book, we were also given the opportunity to see the draft version and proposals for change in the content-analysis. The changes recommended in the content-analysis were normally oriented towards making the materials more relevant to the local or regional situation and sometimes also comprised suggestions for further pedagogical improvement. Some of these suggestions seem out-of place, for example the recommendations to introduce simple experiments with magnetism and electrical circuits, or elementary techniques for proving the existence of weight in air and that air occupies space. Such experiments are much too ambitious for grade 1, and if we can judge from the revised version of the text book they were unfortunately included in the new book.

The role of textbooks as a teaching and learning resource deserves special attention. As was observed in the small class room observation study made in the framework of this report, teachers often use the pupils' text book as a reference material substituting what we can call "real world"-references, for example through pointing to different pictures in the book. It is perhaps a general phenomena that teachers frequently choose the less time- and energy-consuming way of work. They are likely to opt to teach Science (the study of Nature) using a couple of hundred drawings of different natural objects in the pupil's book, instead of using real objects. In fact, it may be very difficult for teacher to cross the psychological barriers existing at the threshold of any primary school and that separates the school world from the real world. The teacher may in fact feel that using all these drawings he could teach "successfully". It is a common phenomena, and probably particularly so in Africa, that Science teachers have enormous difficulties in getting their pupils out of the school building. We can put this question in another way: do pupils really need a textbook to achieve the learning goals specified in the *General and Specific Objectives of Grade 1*?

Textbook for Grade 2.

Starting from the first pages, the learners face a quite dense text that many of the probably are not able to read properly. The textbook presupposes a well-developed reading ability among the pupils. Children must be able to work on a qualitatively different mental level, comparing with Grade 1. They are expected to cope with abstract concepts such as mass, energy, thermal and electrical conductivity, pollution, photosynthesis, etc. Many of those formal definitions of the scientific concepts that we can find in the glossary of the textbook are extremely difficult for Grade 2 pupils. They are out reach, or, in Vygotsky's terminology, out of the *zone of proximal development* of 7-8 years' old children.

Most pupils will probably need special help and guidance in working with the textbook, in reading and understanding narrative, diagrams, tables, pictures and illustrations. Exercises for helping learners "work with" the text should be incorporated in the text. Such exercises are commonly called Directed Activities Related to Text (DARTS) and broadly applied in most current textbooks in the UK, for example.

Different didactic approaches exist for achieving scientific literacy. Let us speculate about "traditional" ways of teaching, possibly existing in Ethiopian tradition. Our interpreter remembers that she was first taught the Amharic alphabet in the Church school, containing more than two hundred signs which represent different sounds. Later the class was made to read first small Bible texts, then songs of David, without any understanding of the content. Understanding came later, when many texts already had been "read". It could be argued that a similar approach may still implicitly lie behind the teaching of Science as it is perceived at least in the Amharic text book for grade 2.. Pupils are fed with lot of content matter in different forms of delivery, while understanding supposedly comes at a later stage. The effect may be memorising *and* regurgitating. A radically different perspective would be that teachers were invited to interrogate into their pupils' understanding of natural phenomena and to perceive teaching of science as a process of conceptual development.

The teaching materials in Oromigna

Teacher's guide for Grade 1.

The guide is written in accordance with the structure of subject matter and the methodology recommended by the syllabus. It is organised on a topic-base. The guide instructs that pupils should actively participate in discussions, do field visits, out-door observations, collection of different natural objects, etc. However, even if group work is recommended in general terms in the syllabi, it is not articulated clearly in the guide. Some of

the specific methods suggested for teachers are not appropriate for Grade 1. Let us give one example. During the first lessons teacher should draw on the blackboard and with help from the pupils fill in big and complex tables aiming at systematising students' observations about the sense organs of man and different animals. When pupils start primary school, they have not yet developed the space vision abilities required by such exercises. For them, it is difficult to relate columns and rows in a table. Tables are an advanced form of data recording, and normally recommended to be introduced in the later classes of the first cycle (1-4) of primary education.

Conclusions

1.The process of Science curriculum development is normally complex, slow and costly. Teachers should be the main "stakeholders" in this process. Unless the teacher can be motivated to participate in the process of improvement, nothing will happen to develop school science teaching. Perhaps the **Science Teacher Association** could serve as a mechanism for involving teachers in this process and also be an instrument for dissemination of experiences and findings.

2.The process of devolving curriculum development from the centre needs a mechanism for information and exchange on the national level. This could be a printing organ, say a ***School Journal of Science and Technology Education***, that could be a forum for teachers, curriculum developers and policy makers in communicating ideas, specific lessons plans, worksheets, quizzes related to specific science topics at specific levels, etc. On the one hand, such an exchange would bring together, in a partnership of professional development, teachers and other stakeholders in the field of science education who are scattered throughout the country. Through such a channel, interesting local experience could be made available to the whole country.

3. Such a journal could also publicise **assessment reform** (recommended by Education and Training Programme), publishing examination objectives, accompanied by sample questions written across a range of science skill domains. This would be likely to contribute to shaping the science of teaching, since teachers would want to practice the abilities that are examined. Broad publication of assessment materials, error analysis in different type of examinations, criticism of trial items, publication of past papers would reduce the probably existing problems of leakage of examination tests.

4.New materials should be more "user-friendly". The process in which they are being developed should involve trying ideas out with a group of target children before printing the texts and other supporting materials. Teachers must be trained in the methodology of working

with pupil's textbooks as a learning resource. Methods for the use of science texts is a topic for teacher training and should be included as a central methodology in the TTIs. Some technical recommendations for developing teaching materials could be done. Try-out teaching guides for Science should be presented in ring-binding format, not as booklets. This would allow new materials to be added on and to take out those that are not working or that become obsolete.

•Flexibility and accountability to local needs is an approach put forward by the policy guidelines for basic education. Considering these general objective, teachers and other local stakeholders should perhaps feel less bound to the existing teaching materials and feel more free to engage in local development projects in Science education.

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6. TEACHER PRE- AND IN-SERVICE TRAINING

The present study should also have embraced a closer evaluation of curriculum materials for teacher education for basic education. However, time-constraints and the unavailability of most such materials made it difficult to embark upon anything like a systematic examination. In the previous section on curriculum materials in three various subject areas, commentaries are made to the guidelines for curriculum development for teacher education in languages and to the syllabi for the Science curriculum for the TTIs. Since the development of teaching materials for the TTIs is a regional affair and the regional bureaux probably have had to give priority to the already challenging task of producing text books and teacher's guides for primary education, no such materials fell into the hands of the authors of this study, even though some obviously do have been prepared in the regions. In the context of the present study, a visit was made to the TTI in Nasreth in Oromia region. Further, syllabi recently developed by the ICDR in some of the subjects taught at TTIs were reviewed. Finally, repeated discussions were held with the head of the Technical, Vocational and Teacher Education Curriculum Development Co-ordination.[20]

It should first be observed that teacher education in Ethiopia is in a state of change. Presently, grade 1-4 teacher pre-service training consists of a one-year course after completion of high-school (12+1). According to the Education and Training Programme, the training of grade 1-4 teachers shall become an integrated part of secondary education, consisting of a 2-years' programme with an entry level of grade 10 (10+2). Teachers for higher levels will be trained at Teacher Training Colleges with an entry level of Grade 12.

From discussions with education officials at central and regional level and on the basis of the visit to the Nasreth TTI, it can be concluded that the TTIs currently occupy a strangely marginal role in the implementation of the curriculum reform. The strategy for curriculum reform does not, for example, comprise an extensive use of the Institutes for in-service training purposes. Currently, the TTIs have full business in providing two kinds of programmes, the 1-year teacher pre-service training course and summer up-grading courses for unqualified teachers. Instructors at the TTIs may be used regionally as text book writers, content-analysts or in the workshops where the new syllabi and teaching materials are introduced at zone and woreda levels, but the institutions to which they belong are apparently not commissioned to deliver systematic in-service training. Since the TTIs are supposed to be the professional institutions in this area and since there is such a strong need for more

[20] The following brief remarks on teacher education are also well in line with the analysis made in one of the few recent studies of the TTIs, Barbara Junge's "Improving the quality of teacher education" (USAID/Ethiopia: August, 1994).

extensive in-service training in relation to the reform, it would appear natural that they were given a strategic key role in this respect.

The TTIs appear, however, also to be struggling with a somewhat strange isolation from primary teaching as such. According to various informants, instructors in recent years have been increasingly recruited directly from the faculties at the university, without any specific experience from primary education. As a result, teaching in the teacher training programme tends to be conceived in academic terms, both in the sense that the academic up-grading of the trainees takes overhand and in the sense that also methodological issues related to primary teaching are approached in a philosophical and theoretical manner. Newly appointed instructors at the Nasreth TTI with whom discussions were held openly confessed that they had almost no idea, founded in their own experience, of how primary teaching could be organised and new little of the problems it may present. Because of their structural position in the education system as representing a second alternative for students who fail to enter into other careers, there is obviously also a risk that the TTIs will be filled with instructors who basically wish to be elsewhere and look upon their current position as temporary. In any case, it seems fair to say that one of the basic problems in the position of the TTIs and in their recruitment is that they tend to be subject to mechanisms that reinforce the dominance of secondary-school models over models proper for primary education. It would seem appropriate to create mechanisms that would make it possible for the TTIs to recruit, as instructors, experienced and talented primary school teachers. This would imply that appropriate study programmes were established that could be offered such teachers, for example at college or university level.

This tendency appears further to be strengthened by the teacher training programmes as such. The one-year course currently offered has to manage a classical balance between academic up-grading of the trainees and preparation for their future professional life as teachers. In very general terms, the impression is that the first component comes to dominate, turning the TTIs into very much of a second-grade alternative to studies at institutions for higher learning. In the newly developed syllabi for TTIs there is unfortunately also a clear tendency towards a separation between the purely academic components, on the one hand, in which trainees are subject to traditional subject-based teaching, and pedagogically oriented courses in primary education methodology and the like, on the other hand. TTI teaching also seems to be strangely isolated from the realities of primary teaching in very practical terms. Currently, the short practice period occurs at the very end of the training programme, apparently without being in any way integrated into the training programme as such. Without knowing how components of teaching practice will be structurally positioned in the future teacher training programme, it could be hoped for that Ethiopia will opt for models that are

increasingly gaining terrain in many African countries where practice periods appear regularly from the very beginning of the training programmes.

The TTIs apparently also need to break their relative isolation from primary school realities by engaging in pilot projects and perhaps small research projects in the areas in which they are operating. There is already a possible basis for such activities in the currently existing clubs or associations. Such activities could also be part of a strategy to capacitate the TTIs and turn them into resource centres that occupy a central role in curriculum reform.

A last comment should be made. Discussion are currently taking place among Ethiopian curriculum development experts for teacher education on what conclusions to be drawn from the apparent resistance among teacher against self-contained classes. The reluctance among teachers to accept responsibility for teaching all or most subjects, in combination with the lack of experiences from how subjects could be integrated and the lack of nationally available experts for writing appropriate curricula and syllabi for such an integration, are arguments for continuing with at the most a slightly reduced subject-division in the first cycle of primary education. Is seems important that this issue is seriously addressed for the future, since decisions else may be taken in haste that will shape Ethiopian primary education and primary teacher training for many years to come.

7. CONCLUSION

7.1. THE QUALITY OF NATIONAL SYLLABI AND REGIONAL TEACHING MATERIALS

The general policy guidelines for the new Ethiopian basic education system represent an important shift in emphasis in primary education towards a learner-centred teaching, based on instruction in the mother-tongue and focusing problem-solving aptitudes and the crucial question of the relevance of content to the individual, the local community and society at large. These policy guidelines seem to be well in line with modern thinking on primary education in general and in third world countries in particular. However, in the materialisation of these policy objectives in the concrete instructions for curriculum development, in national syllabi and in regional teaching materials, other principles tend to manifest themselves, probably originating from traditions existing in the education system and from a dominance of secondary school models over primary education. The most striking expression is the division of teaching in the first cycle of primary education into no less than 9 different subjects with no clear conception of how they should be integrated. This is in contradiction with the modern conception of integrative teaching, focusing on the basic skills of literacy and numeracy, that is ever so much more needed when primary education is framed by difficult material and cultural constraints, as is the case in Ethiopia. Syllabi tend to be academic in their conception and unrealistic in relation to the conditions for teaching, and normally lack the kind of pedagogical awareness that comes from close contacts with teaching realities and from research findings. Teaching materials tend to presuppose teaching conditions (favourable frame-factors as concerns numbers of pupils, available time, availability of text books and teaching materials, and well-prepared pupils) that almost never exist, and, consequently, to describe teaching processes that are unrealistic. This is perhaps particularly serious when teacher's guides opt for detailed lesson-per-lesson plans, prescribing exactly what teachers should do without leaving much room for reflection on the relevance and adequacy of contents and methods in relation to class room realities. Syllabi and teaching materials probably often tend to instruct teachers to teach at a pace and using methodologies that leave perhaps a majority of their pupils behind. No clear conception of how teaching could be continuously adapted to the existing pupils can be found in the syllabi and teaching materials. Notwithstanding these shortcomings, the rhetoric vocabulary presently shaping the discussion on primary teaching in Ethiopia is positive, since it potentially will assist in creating a growing awareness of the problems of teaching, based in

the experiences being accumulated within the framework of the current decentralised curriculum reform.

7.2. WHAT IS MISSING IN THE CURRICULUM REFORM?

In order to successfully implement a curriculum reform of the Ethiopian size and ambition, at least four integrated components are necessary: a) in-put from educational research capable of identifying and analysing basic problems in primary teaching; b) continuous experiences from experimental teaching in pilot schools; c) continuous feed-back from the in-service training system which, in turn, must be capable, or be made capable, of disseminating new teaching styles; d) information from a likewise continuous educational assessment.

Firstly, there is a need for a research-base, i.e. an accumulated and systematic knowledge on the social, cultural, linguistic and material conditions for teaching and on teaching-learning processes in the various key areas of primary education, such as language, mathematics and science teaching. There is no institutional environment in Ethiopia in which scientific traditions and proper instruments exist for creating such a knowledge-base in the area of primary education, where such traditions are being developed or where they are systematically applied to the basic problems that challenge primary education. The evaluation and research division at ICDR has no specific competence in the key areas of primary education, such as language, maths or science teaching, and does not possess the instruments that would enable it to feed the curriculum development process with necessary knowledge in these areas. Research capacity at the Faculty of Education, the IER or other departments at the Addis Ababa University could probably to some extent cover such needs, for example in the area of linguistics, but far from fully. Firstly, research traditions of specific relevance to primary education normally are weakly developed, and secondly the existing capacity is not fully used for administrative and funding reasons. As a consequence, the curriculum development processes and teacher in-service training are not nurtured by a systematic in-put of the kind of knowledge and awareness that an educational research can provide. This is undoubtedly one of the explanations for the inherent blindness that often can be found in the national curricula and in the teaching materials.

Secondly, the current Ethiopian curriculum reform is not based upon experiences from experimental teaching in the true sense of the word. As has been argued above, the try-out schools do not function as centres for experimental teaching, i.e. schools where teaching methodologies and materials are gradually being worked out in collaboration with teachers. The development of the national syllabi are prior to the experiences made in the try-out

schools, and do not in any sense build upon concrete experience from experimental teaching. Further, teaching materials are not developed on the basis of experimental teaching; they are in the normal case merely tested in the pilot schools and evaluated through a rather doubtful, questionnaire-styled evaluation before revisions are made.

Thirdly, curriculum reform is neither influenced by any substantial feed-back from, nor accompanied by, systematic in-service training of teachers. In fact, the weak and in some regions obviously non-existent in-service training capacity is perhaps the weakest point in the whole curriculum reform. As class room observations seem to confirm, there is no way the intentions of the new curricula and syllabi can influence teaching and teacher behaviour without a carefully planned, large-scale in-service training programme. If no such strategy is soon developed, the result of the curriculum reform in terms of learning outcomes may be next to zero.

Finally, there are no proper instruments for educational assessment and evaluation of system performance or of the outcomes of teaching in the various subjects. As was argued above, the formative evaluation of the reform, in which so much effort and so many resources are invested, give poor information on the basis of which problems could be identified and analysed. This is particularly true as regards teaching and learning in the various key areas, i.e. language, maths and science education. As things are, neither the curriculum developers at central and regional levels, nor the commissioned writers have any specific information about learning difficulties related to various subject matters in for example language, maths or science education.

Some commentaries should immediately be made. Firstly, this criticism does not mean that the curriculum reform is a total failure. Even if the national curricula probably are too academic and demanding for the primary level, and even if teaching materials developed at regional level often fall short in quality, the curriculum reform as such represents a changing force in the Ethiopian education system. As pointed out earlier, the rhetoric of curriculum reform represents a shift in the thinking about and discourse on teaching that in itself makes a significant change, even if there is a long way to go before teachers' behaviour and class room practices change and any more substantial gains are to be noted. If a more adequate in-service training system were to develop gradually and experiences gained on the basis of which teaching materials and national curricula could be changed, the quality of teaching may improve significantly. According to the formative evaluation, various stakeholders report positive changes in teaching in at least some of the pilot schools. Further, it should be emphasised that some of the key policy changes undoubtedly represent a great potential for positive change. The fact that most, if not all, children now learn to read and write in their mother tongue creates new conditions for productive learning processes. The decentralisation

of responsibility for primary education to the regional level may create new problems as concerns human resources in the planning and management of the education system, but it also puts decisionmaking into the hands of people who are much closer to the specific regional realities of education and who often are likely to be both more interested in these realities and better placed to deal with them. Moreover, Ethiopia undoubtedly holds an enormous resource in the fairly well-educated and experienced cadre of educationalists who can be found at the professional level, next to the political one, both in the central and regional institutions, and who, albeit often few in number, tend to be very committed in their daily routine work of handling the education system.

As was argued above in the discussion of the relationship between class room practices, on the one hand, and curriculum materials (syllabi, text books and teacher's guides), on the other, primary education in Ethiopian schools confronts a classical dilemma for third world education. Curricula set academic standards that are felt to be nationally desired and able of keeping up to international ones (even though they in fact often are more demanding than in developed countries). In the materialisation of these standards, syllabi and teaching materials tend to take an ideal teaching situation for granted. Firstly, they indirectly describe frame-factors - such as the number of pupils in the class room, time available for teaching or the pupil/textbook-ratio - in a way that normally does not correspond to the reality faced by the teacher. Further, the real school children who the teacher has to teach seldom or never behave like, or learn as quickly as, they are supposed to do by the teaching materials. As a result, the teacher cannot but accept that the real teaching situation is something different from the one described in the teacher's guide. Since the pace he is supposed to follow in teaching is defined by the teaching materials (sometimes by detailed lesson plans for the whole school year), and no alternatives are given, the teacher cannot do else than tacitly accept that many pupils do not correspond to standards and, for that reason, are left behind.

Decision-makers and curriculum developers normally believe that the solution to this problem is more and better in-service training. Well-trained teachers would be able to handle these teaching problems in a productive way and achieve the goals set by the national syllabi. This may to a certain extent be true, but it is certainly not a sufficient explanation and does not provide a satisfactory point of departure for a convincing strategy for overcoming the problems of teaching. Firstly, even under favourable conditions it will take many years to produce teachers who could fruitfully handle the kind of class room situations that Ethiopian primary teachers have to face. Secondly, material teaching conditions will probably not change dramatically for many years. Thirdly, the specific learning difficulties that Ethiopian children normally have to overcome and that are due to a complex set of factors - such as their material and cultural family conditions, the discrepancy between their domestic

conceptual world and the conceptual world of the school, or their bi- or multi-lingualism - will not disappear before Ethiopian society has undergone substantial change. Fourthly, to improve teacher pre- and in-service training means nothing else than filling it with awareness of how primary school children in Ethiopia can be taught successfully, i.e. how teaching can be adapted to the cultural and material conditions for learning in Ethiopian schools. It seems evident that such an adaptation necessarily, like in all other countries, must include a continuous revision of academic standards and of teaching methodologies in view of what is possible to achieve pedagogically, given the school children and the school teachers that actually exist in Ethiopia. As a consequence, just referring to a supposedly better pre- and in-service training of teachers means begging the question. Such an improved teacher training capacity can only be achieved on the basis of an understanding of how teaching can be adapted to the existing conditions for learning, founded on practical experience, on research findings and on educational evaluation. Such an improved content in teacher training programmes, then, must be gained through a process of accumulation of experiences and reflection of exactly the same kind that those referring to "a better trained teacher" as a universal remedy for the problems of primary education tend to put between parenthesis.

There are no easy solutions to these problems. What could be realistically hoped for is, once again, a continuous adaptation of teaching - i.e. syllabi, teaching materials and teachers' behaviour - to the realities of teaching and learning. This could be gradually achieved if the four components in curriculum reform were to be put in place in an integrated way.

7.3. WHAT COULD BE DONE?

There is a need, then, for gradually improving the quality of national syllabi and of regionally developed teaching materials, for substantially increasing in-service training capacity and for the establishment of an assessment capacity that can provide information both on system performance in general and on learning outcomes and learning problems in the various key areas of primary education.

A sustainable strategy for quality improvement must include the creation of a more solid research-base which could inform the development of syllabi and teaching materials. "Research" should not, in this context, be understood as a purely academic enterprise. Even if a sustainable research capacity must necessarily include academic components, such as the establishment of solid scientific traditions, international scientific networking and, perhaps, academic up-grading of staff, research should be motivated by, and be of service to, the "applied" activities related to quality improvement of primary education. This means that

research results must provide an input into curriculum development, the development of teaching materials and in-service training programmes. Many interviewed educationalists at central and regional level now witness that workshops arranged at both levels often tend to be theoretical and abstract and give little new information on the problems of teaching with which they are confronted in their daily work. This is undoubtedly in part so because there is little or no input of detailed and concrete research-based knowledge on teaching-learning processes and their conditions.

There is also a need for experimental teaching in a more ambitious sense of the word. Educational research would also need to comprise pilot projects in language, maths, science and social science education, in which concrete experiences are gained on how teaching-learning processes can be conducted in fruitful ways, given the existing conditions for primary teaching. Such pilot projects should be conducted in collaboration with ordinary teachers under next to normal conditions, and involve teacher training institutes in order to contribute to the empowerment of the teacher training system. ICDR and at least some regional bureaux could engage in the experimental development of new teaching materials with the aim of developing more realistic and sustainable models for good teaching.

Thirdly, in-service training capacity must urgently be strengthened. To some extent this is a question of priorities. If strong regions were given more funds for expanding their already existing in-service training activities, the quality of primary school teaching would probably improve. It would, however, be desirable that such investments were accompanied by other measures to improve the quality of teaching materials and the awareness of the problems of primary teaching. If some regions were encouraged to engage in experimental development of teaching materials, such pilot schools, in the true sense of the word, could also serve as model schools in in-service training programmes. Teachers rarely change their teaching strategies merely on the basis of a "theoretical" understanding of the necessity for new teaching methodologies. If possibilities were given to see how class room activities could be arranged in new and more productive ways under normal conditions, then chances increase that teachers would engage in changing their own teaching styles. Good teachers who have been participating in successful experimental teaching could also be used as mobile instructors in their *woreda* in carefully planned in-service training programmes. Results from experimental teaching could of course also be disseminated through more normal in-service training activities, such as workshops. Finally, it seems particularly important that in-service training is given a much more practical, hands-on, character, with less theoretical exposures of the virtues of "problem solving" or "communicative teaching' and more practical exercises enabling the participants to discover what these cheered words may mean when it comes to class room practice. The fact that existing workshops arranged in the context of the

curriculum reform tend to be more theoretical than practical probably also depends, once again, on the lack of concrete experiences from experimental teaching and from relevant research on primary teaching.

Finally, Ethiopia would need to establish an assessment capacity both at central and regional level. National tests are supposed to be made only in Grade 8. Since the regional capacity to evaluate teaching materials or system performance in general is very limited and unequally distributed between regions, there is a risk that serious problems relating to the new curricula will not be discovered, or much too late, so that appropriate measures may be taken. National assessment could be made on small sample of schools at national and regional levels in order to get at least a more or less accurate picture of where pupils stand in relation to the standards set by the national curricula. Further, diagnostic testing could be made with the aim of identifying various kinds of learning difficulties or exploring learning in specific subject areas that are of interest for curriculum development, development of teaching materials and in-service training. Scientific assessment traditions and instruments should not be limited to the central level, but also put to the disposal of the regional bureaux.

The potential role of the ICDR

As emphasised above, the ICDR represents an important resource in the Ethiopian curriculum reform. If the country's education system is to keep together, some agency must probably be entrusted with the mandate that now lies with the ICDR - i.e. to collaborate with the regional bureaux and other educational institutions in the country in the establishment of national standards. During the difficult first years of the transitional period, ICDR probably played a necessary role supporting all regions, even if this supportive role was far from being contested by some regions. Currently, ICDR gives a vital support to weaker regions in order for them to achieve the goals set by decentralisation. At one level, the ICDR is also a well-functioning institution, with a certain concentration of experienced and trained manpower, and an institution that has proved to be efficient. Under difficult constraints in terms of human resources, time and equipment, the ICDR has managed to live up to its mandate. The curriculum reform is *de facto* administered, with an impressive amount of activities and responsibilities - from the making of national curricula from grades 1 to 12 to the formative evaluation and a very concrete support to weak regions in writing teaching materials.

This is, however, not the whole story. One of the points of the previous analyses of curriculum materials and activities related to the curriculum reform is that this efficiency in a sense is achieved at the price of a somewhat dubious quality. Syllabi and accompanying activities, such as the workshops and the formative evaluation, are not sufficiently oriented

towards the realities of primary education. This is also felt at the regional level, and in particular by experts working in the so called strong regions. These experts, who often are not less experienced or less well trained than ICDR experts are, tend to demand new, more specialised services from ICDR. They are aware of deficiencies in the syllabi and in their own teaching materials, but do not feel that the ICDR is capable of supplying the knowledge or experience, or at least of providing the instruments, whereby they could overcome these shortcomings. To some extent, the role of ICDR is even felt to be directly negative. Both at Amhara and Oromia regional bureaux, specialists complain for example that they have had to spend so much time and energy on the formative evaluation, which in their perspective gives little relevant information on how the reform is being implemented. They also request national workshops that provide more useful knowledge related to their daily problems and less official discourse. As for weaker regions, their dependence on the ICDR for getting things done also is the basis for a more hearty recognition of ICDR's importance. Collaboration with ICDR is closer. But even here it is often felt that ICDR experts understand little of the specific regional education problems and are limited to applying general and partly inappropriate models to solve these problems.

It seems, then, that ICDR needs to become more professional. The future *raison d'être* of the Institute in basic education must probably be to support the regional bureaux in solving their specific problems related to quality improvement, to guarantee regional exchange of experiences, to give specific training when needed, and to disseminate research results. If ICDR is not capable of providing such professional support, the regions will probably increasingly question its legitimacy in the area of primary education. There will simply be no need for a central institution that is not capable of providing a professional input that the regions do not have. It is already the case that the educational bureaux of strong regions like Amhara and Oromia seriously put in doubt the quality of some of the draft syllabi and other materials proposed by the ICDR, and often do so on good grounds.

The only way this potential crisis of legitimacy can be overcome seems to be that ICDR assumes a new role. It should be strongly emphasised that this role is highly needed. It is for example difficult to see how a more solid research base for quality improvement in primary education could be built up separately and in isolation at the various regional bureaux. Moreover, national dissemination of research results and experiences must probably be guaranteed by a central, professional institution, that is familiar with and has respect for the realities of basic education in the different regions. Access to the international, and in particular African, experience of primary education development must probably be facilitated by a central institution capable of really making this experience and these contacts accessible to experts at regional level. Exchange of experiences between regions and professional

discussions on shared quality-related problems in elementary education would probably be much facilitated if it was the responsibility of a central institution with a professional credibility. Specific training programmes related to curriculum development and primary teaching would also be easier to offer to the regional bureaux it there was a professional central institutions that could assist in co-ordinating them. This is already to some extent done by the ICDR, but regions increasingly question the appropriateness of this contribution.

ICDR would need a more solid research base on which curriculum development and support to the regions could be founded. It also lacks sufficient know-how of the practical aspects of the development of curriculum materials. Curriculum development for primary education must be professionally founded on a solid experience from primary school teaching which experts at the ICDR seldom possess, since few of them have ever been systematically exposed to the realities of primary teaching, either as researchers or as teachers. Selection and sequencing of contents, as well as methodological approaches, tend to be based, at best, on a theoretical understanding of class room realities or, at worse, on a purely academic conception of the structure of the subject to be taught. This is probably one of the explanations for the survival of a strictly subject-divided first cycle of primary education. The starting point of curriculum development are the subject-specific panels at ICDR, filled by experts with a background in secondary education.

It should again be stressed that the ICDR would need to develop a new relationship to the regional bureaux and their curriculum development experts. What will increasingly be demanded at regional level is a more advanced input into curriculum development activities in their respective region, for example on how to handle specific linguistic difficulties in the development of teaching materials, how to overcome specific learning obstacles related to various subject-matters, or how to address teachers' difficulties to conceptually understand various contents. Such professionalism could be gained at ICDR only through extensive collaboration with experts at the regional level in research and development activities such as pilot or experimental teaching projects.

A reinforced and more professional ICDR would also more competently fulfil its mandate to play a key role when national standards are set. The draft syllabi would be based on a profound knowledge of the various problems facing primary education throughout the country and on more solid research. If an educational assessment capacity were to be created at the ICDR, the Institute would also be in position to collaborate with the regions in producing information on learning outcomes and system performance. ICDR's capacity to make a convincing contribution to establish national standards is probably in a longer perspective a pre-requisite for keeping a unified basic education system.

There are strong arguments, then, for assisting the ICDR in strengthening its capacity, if the Institute itself is willing to establish new working relations with the regional bureaux and reconsider its present role. Such a commitment would imply regular visits to schools in various regions and extensive stays in the regions in order to work closely with the bureaux in research projects, pilot projects, in-service training and curriculum development activities. If the ICDR shows little interest in transforming itself into a central resource centre, capable of giving a specialised professional support to curriculum development activities in the regions and of facilitating exchange of experiences between regions and between regions and the international community, then an option for Sida could be to reformulate the proposed capacity-building programme so as to focus mainly or entirely on the regional bureaux.

A few words should also be said on the role of foreign assistance in this context. What is needed at an institution with a relatively high professional standard as the ICDR is probably not full-time foreign consultants trying to assist in or even monitor daily activities. The Institute is fully capable of running its own affairs. But the ICDR do need technical assistance in another sense, namely to have continuous access to a number of foreign experts at high professional level who assist the various research and curriculum development groups in designing, monitoring and evaluating the projects in which they are involved. Such experts should have substantial experience from research and developmental work in their area of specialisation, and need to be familiar with the international and African development in this area. They would also support the Ethiopian experts in international networking and in getting access to relevant international experiences and to relevant literature in their area. Visits to Ethiopia should be regular. Since it his highly unlikely that one single specialist can combine qualifications of this kind in more than one area, a capacity building programme of this sort would need to include participation from 5 or 6 experts covering the main areas of interest (language education and linguistics, mathematics education, science education, social science education, educational assessment and measurement, sociology of education and culture).

Potentials at the regional bureaux

The Curriculum and Research Departments at the regional bureaux are generally closer to the educational realities of their respective regions, which should be little surprising since these realities are the focus of their daily work. In the strong regions the departments also give the impression of being potentially well-staffed, in the sense that they have well-educated and often committed staff members representing the various panels and the research units. However, staff is limited in number, and often also in experience, compared to the ICDR. It is

also recognised by the bureaux themselves that most staff lacks adequate training in curriculum development and sufficient understanding of the problems of primary education. Since text books for millions of Ethiopian primary school children and teacher's guides for tens of thousands of primary school teachers are being made by these regional experts, there is a strong rationale for Sida support to curriculum development at regional level. It seems particularly urgent that curriculum developers learn to apply an integrated approach at least in the first cycle of primary education and, further, that they learn to search for realistic methodological solutions to the problems of primary teaching. This could partly be done through engaging in small research projects monitored by experienced experts and in experimental teaching projects in a number of schools. It is difficult to see how the intentions of the current curriculum reform could be materialised, if such practical know-how is not developed. Current in-service training activities at regional level normally seem to transmit little realistic methodological training. Possibly, some regions could gradually develop model schools that can be used for in-service training purposes. Since the teacher training institutes (TTIs) are the responsibility of the regions, is also vital that the bureaux develop appropriate strategies for capacitating them as regards primary school teaching and for making systematic use of them in in-service training programmes.

In the weak regions, human resources are far from being sufficient for implementing the current curriculum reform. Until donors take responsibility for funding educational development in their region, the education bureaux will depend on the support they can get from the central level. It should be emphasised that such central support probably never will be sufficient or adequate enough for addressing the regional needs. The central level neither has the competence nor the resources to confront the complex educational situation that most of these regions live with. If donor support were to be more coherent in such regions they may have a chance to develop their education systems in ways similar to these of the strong regions. If there is no such donor support and these regions will have to live with a fragmentarised capacity at regional, zone and woreda levels, chances are that they will become even more backward in relation to the centre than they currently are. Under such conditions, it is doubtful what impact a restricted Sida support to these regions could have. The in-service training capacity is virtually non-existent, because of the weak regional bureaux and the lack of resource-persons at secondary or post-secondary institutions. The bureaux by large do not have the resources to properly address the cultural and linguistic situation in which primary education operates. Normally these regions have not had other alternatives than opting for using Amharic as means of instruction and more or less copying

teaching materials made at the central level.[21] Notwithstanding these difficulties, even the weak regions keep a number of committed professionals, even though they are few, who keep things going. This is an important target group for any strategy for improving education in these regions. Involving them in a capacity-building programme or providing them with very limited resources (as has been the case with the existent Sida support[22]) would probably encourage them to keep on in their endeavours and to some extent assist them in their difficult tasks, but if they are not given more extensive and coherent donor support their own commitment will have little chance of challenging the immeasurable problems they are confronted with.

Supporting curriculum development at the central level, at the regional level or both?

The ICDR

To summarise, the main central institution involved in curriculum development, the ICDR, represents an important resource in the improvement of the quality of curriculum reform. There are several arguments for supporting the Institute in its role as a central agency involved in basic education through curriculum development:

1. The ICDR academic panels make an important contribution to setting national standards through developing draft syllabi for basic education. Even if the endorsement of these syllabi is a shared responsibility where other Ethiopian agencies intervene, the ICDR by this fact has a decisive influence on curriculum development at a national scale. Inversely, it would probably have negative effects if capacity building in curriculum development for basic education did not embrace the central institution entrusted with a mandate to participate in setting national standards.
2. The ICDR is responsible for setting national standards through curriculum development for educational programmes that indirectly influence basic education, and most importantly for teacher training programmes.

[21] In the Southern Region, the bureaux has opted for accepting a number of local languages, but without any real resources for implementing this decision in a serious way.

[22] Sida support to the education bureaux in Benishangul and Afar amounted to some 200 000 Brr last year, spread on 8 or more different sub-programmes. In regions where the bureaux have no physical access to schools or woredas, or even zonal bureaux, where in-service training is non-existant, and where the few bureau staff members cannot engage anyone but themselves in programmes for educatrional improvment, this support is in a sense ridiculously inadequate.

3. The ICDR plays an important role in the existing national evaluation of the curriculum reform, the formative evaluation.
4. The ICDR still gives an important support to weaker regional education bureaux in curriculum development.
5. There is a need for a central institution that could bridge experiences from curriculum development between regions, and between international development and regional curriculum work.
6. There is an urgent need for a more solid research base on which curriculum development could be founded and to establish internationally existing scientific traditions related to primary teaching and its conditions in Ethiopia. It would be a costly enterprise to create conditions for such research separately at each regional bureau through reinforcing the existing research departments. Even if the research departments at the strong regional bureaux comprise experienced and rather professional staff, the small size of these departments makes it improbable that they by their own could develop sufficient experience and know-how. Much could be gained if research departments and curriculum development panels at the regional bureaux could collaborate in establishing and making use of adequate research traditions that could nurture curriculum development in their respective region. If parallel small research studies were to be set up simultaneously in various regions, for example in an area such as mathematics education, there would be a need for co-ordinating activities such as inter-regional meeting, training programs, international contacts or the proper use of foreign technical assistance.
7. There is a need both at the ICDR and at the regional bureaux for training programmes designed to improve the quality of curriculum development. It seems rational that a central institution like the ICDR could assist in co-ordinating such training programmes.
8. The ICDR has a relatively large, experienced and well-trained staff that undoubtedly is capable of improving the quality of the contribution the Institute makes to curriculum reform in basic education, if adequate resources were to be put at the disposal of the Institute for this purpose and if adequate training and technical assistance were to be provided.

These are arguments for giving the ICDR a co-ordinating role in a capacity building programme that would need to be a shared responsibility between the Institute and the regional bureaux that have the interest and the possibilities to participate.

However, it should once again be emphasised that it would make little sense to make substantial investments in the ICDR in order to improve the quality of curriculum development for basic education if the Institute does not have a political mandate to engage in the kind of activities indicated above and if there is no particular interest at the ICDR itself for doing so. This means that support to curriculum development should not be given solely to a central institution. There seems to be no guarantee that such support would significantly improve the quality of the reform, since quality improvement is totally dependant on the integration of "theoretical" inputs like research and assessment, on the one hand, and "applied" activities such as in-service training, pilot projects and development of teaching materials, on the other. Since responsibility for the latter activities lies exclusively with the regional bureaux, there must be a guarantee that support to curriculum development for basic education involves these bureaux at least as equal stakeholders. Educational research designed to improve the quality of syllabi, teaching materials and teacher in-service training programmes must for example be carried through in close contact with primary school realities and applied activities of the kind that now are the responsibility of the regional bureaux. If experiences from pilot projects or results from educational assessment should be made available in a fruitful and concrete way for curriculum developers and researchers at other regional bureaux through the intermediary role assumed by a central body like the ICDR, then staff at the Institute must be sufficiently well-informed of these experiences and sufficiently professional in understanding them. In order to assist the regions in creating and maintaining international contacts in the area of curriculum development for basic education, the ICDR staff must be sufficiently familiar with what is happening in regional curriculum development. If the ICDR were to offer adequate small-scaled training programmes aiming at improving the capacity in curriculum development in the regions, even using experts from national or foreign institutions, then the Institute would need to know far more than at present about the problems the regional curriculum developers are facing and how they can be approached.

It could be concluded, then, that substantial support to the ICDR for strengthening the Institute's capacity for curriculum development in basic education would presuppose that clarity is obtained as to the Institute's long-term responsibilities and mandate.

The regional bureaux

Support to capacity building in curriculum development for basic education would necessarily have to include the regional bureaux. Certain kinds of support, and in particular a material one, should probably be given directly to the regional bureaux, since the bureaux have total responsibility for the implementation for curriculum reform in their region. As

concerns educational research, pilot projects, educational assessment and training programmes, it would seem more cost-effective and rational that support to the regional bureaux was co-ordinated. This does not mean that all funds should be transmitted through a central institution, but that support is given on the condition that the regional bureaux participate in a co-ordinated programme that involves several regional bureaux and, if this is possible, a central institution like the ICDR. Cost-intensive inputs into research and training programmes could then be made available for many regional bureaux at the same time. It seems natural that a central agency like the ICDR assumes a certain co-ordinating role in such a joint programme, even if the participating regional bureaux would be equal stakeholders. In case no central institution has the political mandate, the will or the capacity to assume a co-ordinating role for such support, a programme offered to the regional bureaux would have to be co-ordinated in other ways, possibly by a small inter-regional co-ordinating unit, supported by a foreign sister-institution and possibly by the Addis Ababa University. In any case, it would seem less rational to put up separate programmes for improving the quality of curriculum reform in several regions at the same time.

Two models

To conclude, two basic models could be considered. The first would be that the ICDR and a number of regional bureaux, as equal stakeholders, engage in a capacity building programme that includes relevant educational research, pilot projects, educational assessment, international networking, adequate training courses related to curriculum development and, finally, certain inputs into teacher in-service training in the various participating regions. Such a programme would be supported professionally by one or several foreign institutions and by the Addis Ababa University. Each participating regional bureaux would also have to make clear how such an engagement would relate to other on-going programmes of similar nature that possibly exist in the region (as for example the USAID supported programmes in Tigray Region and the Southern Region). On the basis of thorough discussions between the stakeholders - the regional bureaux and the central institution - specific objectives and an agenda would be set up that in particular satisfy regional priorities. It seems functional that the central institution would assume a co-ordinating role.

A second alternative would be that a similar programme is set up, but without any significant participation from a central body like the ICDR. In this case, a co-ordinating unit of some kind would probably have to be set up. Such a model would perhaps be necessary to consider, if the ICDR does not have a political mandate, the interest or the capacity to improve its professional potential in basic education along the lines indicated above. The clear disadvantage with this model would be that it becomes unclear how the results of

regional activities related to curriculum development - such as research findings, experiences from pilot projects, insights obtained by educational assessment or by training programmes for curriculum developers, etc. - would feed into national syllabi.

APPENDIX A

Sida/Ministry of Education,Ethiopia July 1995

TERMS OF REFERENCE

EVALUATION OF THE CURRICULUM DEVELOPMENT AND A MANPOWER NEEDS ASSESSMENT OF THE INSTITUTE OF CURRICULUM DEVELOPMENT AND RESEARCH(ICDR), ETHIOPIA.

1.BACKGROUND

SIDA has supported the Ministry of Education(MOE) in Ethiopia for many years. During these years Ethiopia has undergone structural and administrative changes , which have had profound effects on the education system. The Ministry of Education has during the 1990's produced three important policy documents: Education and Training Policy, Education Sector Stategy and a Draft Master Plan for Education. Educational goals, objectives and strategies are being developed in correspondence with these policy guidelines.

There are, however, serious problems within the education system, both of quality and access. At present only about 22 percent of school age children are enrolled in primary school. The quality of the education provided shares many of the problems in other countries in sub-Saharan Africa such as large numbers of underqualified teachers, a shortage of educational materials and very poor infrastructure. It is also insufficiently attuned to the needs of the pupils and their communities, failing to respond to the basic learning needs in relation to practical skills used in everyday life. Other major features characterizing the education system are the wide disparities existing between gender, regions, urban/rural areas, and population groups.

To overcome these problems the new Education and Training Policy emphasizes the following objectives:

- decentralized education management
- restructered educational system
- basic education for all
- curricula adjusted to local needs
- education related to real life situation and production
- raised quality and achievement of education

In order to meet the objectives the MOE is in the process of developing a strategy and different guidelines for implementing the policy. It is essential that at each level, curricula and teaching/learning material be developed with the view to evolve and shape citizens bearing the profile stated in the new eduaction and training policy.

The responsible department for the work with curriculum development is the Institute of Curriculum Development and Research (ICDR).

Recognizing that curriculum development is a major determinant of the quality of education, one component in the Swedish support to the MOE has been support to ICDR, mainly in the field of curriculum research. The Institute's role is:

- to set standards for preparation of curriculum guidelines for primary education

- to asssist the regions to produce local curriculum

- to identify focal subjects to meet the expected profiles identified in the education policy

- to develop curriculum for secondary education

- to assist in providing curriculum for teacher training

- to strengthen pedagogical centres

- to train staff engaged in curriculum development

- to follow-up and monitor curriculum activities

- to give consultancy services and

- to do research

2. REASON FOR EVALUATION

The present Specific Agreement between the Government of Sweden and the Government of Ethiopia on Education Sector Support expired on the 30 June 1995, but is extended by one year, to 30 June 1996.

In the process of preparing the next phase and for the identification of areas for continued Swedish support there is a need for an independent assessment of the new curriculum for basic education and to analyse the manpower needs of ICDR for curriculum development.

SIDA has been for many years a major donor to the educational materials sector in Ethiopia. At the joint annual education sector review in February 1991 it was decided to carry out a study of ICDR, its organization and needed resources for an efficient fulfillment of its important role in education development. This study did not take place.

At the joint annual education sector review in October 1994 the issue of carrying out a study was brought up again and it was agreed that SIDA would offer short term technical assistance to ICDR to carry out an evaluation of the proposed new curriculum for basic education and the curriculum development manpower needs of the ICDR. The evaluation report will be an input into the planning of the next phase of the Swedish support to the education sector in Ethiopia.

3. THE TASK

Objectives

The main objective of the study is to review the work that has already been carried out on the new curriculum for basic education in Ethiopia. A secondary objective is to analyse the manpower needs of the ICDR for further development of the new curriculum.

Activities

The consultant will carry out the following activities together with a counterpart nominated by the ICDR:

1. Review the curriculum and related syllabuses for primary education which have been developed by the ICDR since 1991. The consultant will in particular examine the appropriateness of the objectives, contents, proposed teaching methods, the time allocated per subject and the evaluation methods proposed by the ICDR. The emphasis will be on the materials for primary education and primary teacher training materials.

2. Review the primary and primary teacher training educational materials which have been developed by ICDR and examine them for their congruence with the curriculum and syllabuses, and their relationship to the teaching methods proposed by ICDR.

3. On the basis of a review of the current staffing of ICDR and the Regional Education Bureaux manpower for curriculum development, identify the requirements for staff for curriculum development and research and evaluation.

4. METHODOLOGY, EVALUATION TEAM AND TIME SCHEDULE

An internationally recruited consultant, who will be the team leader, will work with a counterpart nominated by the ICDR. If necessary, a second consultatnt will, due to the language situation in Ethiopian education, be recruited to facilitate the work of the internationally recruited consultant.

The work will be carried out as soon as possible, preferably in September 1995 and not later than December 1995.

The ICDR will provide the evaluation team with an office at the ICDR in Addis Ababa and arrange for visits to a small number of Regional Education Bureaux.

The total number of weeks for the consultancy will be decided by the Ministry of Education and Sida but will be not less than 3-4 weeks in Ethiopia plus one week for finalising the report.

5. REPORTING

The evaluation team will prepare a draft report which will be presented to the Ministry and Sida in Addis Ababa on completion of the field work. The report will be finalised taking into account the comments of the draft report, not later than three weeks after completion of the field work.

The final report will be submitted in 10 copies to Sida Stockholm, from where the report will be distributed to Sida Addis Ababa and the Ministry of Education.

6. The Consultant

The internationally recruited consultant will have the following qualifications:

- A Ph.D. in curriculum development and/or equivalent experience in this field. A qualification and/or experience in education research and evaluation is a merit.

- Experience in primary school curriculum development, preferably in developing countries.

- Fluent English is essential. Knowledge of Ethiopian languages, particularly Amharigna, is a merit.

- Experience as working as team leader.

The ICDR counterpart should have experience and qualifications in curriculum development. The counterpart should be able to work full-time on the evaluation.

The locally recruited expert, if this post is found necessary, should have solid experience of curriculum development and preferably also formal qualifications in this field.

APPENDIX B:

LIST OF PERSONS OUTSIDE THE ICDR WITH WHOM MORE ELABORATE DISCUSSIONS WERE HELD (TEACHERS, PRINCIPALS, ZONAL AND WOREDA EDUCATION OFFICERS NOT INCLUDED)

MOE

Desta Wodajo, co-ordinator of Sida-funded programmes

Afar Region

Mohamed Osman, Head of the Regional Education Bureau

Ahmed Mohammed, head of the Curriculum development and research department

Wassenu Yiman, expert, research panel

Tensay Wale, expert, curriculum development panel

Sadik Hassen, statistician, Planning department

Amhara Region

Melese Bedanie, head of the Curriculum development and research department

Yielma Tirsite, co-ordinator, regional Pedagogical Centre

Haileluel Tefera, Co-ordinator, Science Curriculum Development

Genetu Melese, expert, English language Curriculum Development

Oromia Region

Negassa Ejete, Head, Curriculum and Research Department

Berhanu Dibaba, Head of the Research panel

Alemu Hailu, research expert

Challa Regassa, Head of the Science and Mathematics Curriculum Development Panel

Mosise Kenei, expert, Mathematics Curriculum Development

Dabaa Hundie, co-ordinator, Primary Education Assistance Project

Benishangul Region

Head of the Regional Education Bureau

Issa Hassan, Head, Curriculum Development and Research Department

Takele Musisa, head of Social science panel, co-ordinator of the regional Pedagogical Centre

Genene Esayas, expert at the Planning department

Addis Ababa University

The Dean of the Faculty of Education

Tirusew Teferra, head of the Institute for Educational Research

Donor agencies

Anders Öhrström, Sida

Adeye Befekadu, Sida

Anders Lindqvist, FTP (Finnida)

Tassew Zewdie, USAID

Aberra Makonnen, USAID

Cameron Bonner, USAID

Tim Wilson, BESO (USAID)

Linda Pursley, BESO/Awassa

APPENDIX C:

EXAMPLE LESSON FROM CLASS ROOM INTERACTION STUDY (QUALIFIED, BUT NOT UP-GRADED TEACHER IN PILOT SCHOOL, SCIENCE LESSON IN GRADE 1)

Lesson summary:

1. Teacher writes on the blackboard in Oromigna:

"Animals and their characteristics"

and then:

"Grass-eating animals"

2. The teacher opens the text book and shows pictures of various animals. For each picture he asks what the name of the animal is and what it eats to feed itself. Questions are both collective and individual. The class seems to be used to chorus answers. This goes on for 10 minutes.

3. Having gone through all pictures in this section of the book, the teacher starts revising by selecting a sample of the pictures. He shows them again, and asks the pupils individually what the names of the animals are and how they feed. Approximately one third of the class is now entirely passive, whereas another one-third of the pupils compete enthusiastically for getting a question from the teacher. The remaining third seem o be alternatively passive and activie. Revision takes approximately 5 to 7 minutes.

4. The teacher now picks up a handful of model animals prepared by at the pedagogical centre of the school. He uses them much in the same way as the pictures from the book. He also brings out a number of flash-cards and asks the same type of questions in realtion to these. This exercise goes on for approximately 8 minutes.

5. Now, a short period of confusion occurs. The teacher is often silent, but now and again puts a question of the previous type to the pupils, who are all waiting for something to happen. This period lats approximately 5 minutes.

6. The teacher now starts writing more sentences at the blackboard in Oromigna. Apparently these are categories of the same kind: "grass-eating animals", etc. After each heading, he then lists a number of animals: "Re'el", "Arba", "Gaala", etc. When this is happening, pupils are waiting. Writing the list of animals takes approximately 5 minutes.

7. The teacher now tells the pupils to write down what he has written on the blackboard. Most have enormous problems in doing this. Apparently, for many pupils the words represents as sort of pictures, not letters that form words, and they do their best to draw the pictures. The copying/writing phase takes another 7 minutes.

8. After a while, the teacher starts correcting the written exercises. He manages to finish more or less 15 pupils before the lesson is over. In no case, any explanations or any

individual assistance was given to the pupil who was being corrected. During correction, perhaps one third of the pupils have stopped writing and just wait for their turn. A great number of pupils obviously do their best to copy their neighbours in order to get the exercise right. Others just sit still, even if they have not finished.the correction goes on for 8 minutes.

9. The teacher ends the lesson by telling the pupils that they should study the names of the animals at home.

General commentaries: The language used by the teacher can be characterised as standing very close to the the language and vocabulary implied by the text book. Very few references are made to the rural world that frame the pupils' experiences. All questions are closed, i.e. demand a specific, correct answer. At no occasion does the teacher invite pupil to tell for example what animals they have seen or what they themselves know about what animals eat. The useof the didactic materials (model animals and flas-cards) is identical to the use of the text book and doesn't change anything as regards teaching method. The language use of the pupils is restricted to giving individual, mostly one-word answers to closed questions or to repeating chorus-answers. Language is never used for negotiating or expressing experiences. Other kinds of pupil's activty are reduced to copying the sentences from the blackboard. Pupils make virtually no use of skills or any elaborate use of language. The dominating activity among pupils probably is to wait.

Interview with the teacher: The teacher considers the lesson to be quite successful since many pupils were active in giving answers to the questions. According to his understanding this is what is called a participatory approach in the syllabus. The teacher acknowledges that the new curricula represent an important change in relation to the old ones, since teachers are now requested to see to that pupils are participating actively. He has received no teacher's guide for this year (the revised, final, version), but says that he has been influenced by the previous try-out guide. On the question why he did not invite pupils to more freely speak of their experiences of various kinds of animals in their surrounding, the teacher answers both that the pupils still are not used to this kind of teaching and that
he uses to ask such questions at other occasions. On the question why he wrote such abstract sentences on the blackboard ("Animals and their characteristics"), he says that it is important that pupils are told what is the theme of the lesson, and particularly so since they need to have a clearly organised notebook. On the question, if he thinks pupils really are able to read and write at this stage of grade 1, he answers that this is one way in which these skills are taught. The correction of the notebooks at the end of the lesson is motivated by the need to know where individual pupils stand. Even if all students cannot be corrected each lesson,

most pupils will be correctd at least during a school day. On the question what kind of remedy he would choose, if it becomes clear that many pupils do not accompany teaching, the teacher says that he simply would do revision.

This teacher holds a 12+1 diploma and has not participated in any in-service training programme related to the curriculum reform.

Brief analysis: Teaching gives an almost entirely passive and reproductive role to the pupils. As a result, at least half the pupils fall into passivity. The main student activity seems to be waiting. Language use is extremely reproductive, in spite of the fact that the mother tongue is being used. Conceptual understanding is not possibly in any sense promoted by the teaching methods being used, since the conceptual framework is restricted to the text book, and no conceptual negotiation is taking place. The use of reading and writing appears to be of doubtful pedagogical value. A matter to be explained is how the teacher can feel that this kind of teaching is in line with the intentions in the syllabi and teacher's guide.

APPENDIX D:

C O M M E N T S
ON THE
Evaluation of Curriculum Development and Manpower Needs Assessment of the Institute for Curriculum Development and Research (ICDR) ETHIOPIA

Preamble:

The Institute for Curriculum Development and Research, ICDR, would like to appreciate the attempts made by the study team in disclosing the efficiency and the effectiveness of the Institute's gallant efforts of the past. Furthermore, the Institute is indebted much to thank the team for the suggestions made to improve the quality of education and the recommendations forwarded to equip the institute both in qualified manpower and the basic facilities that would enhance the qualities of the institute's activities in general and its research capacities in particular.

However, after having gone through the evaluation report carefully, we were able to investigate some factual fallacies on which the finding discussion based to arrive at wrong conclusion which might lead in turn to misleading recommendation. This becomes the concern of the Institute to promptly give comments on the evaluation report so as to help the team to correct the factual fallacies of the information on which the discussion of the evaluation finding report was based and improve the report in accordance with the true information provided during evaluation study.

These comments are made on general and specific issues. The comments on the general issues are concerned with the roles and the mandates of the Institute (ICDR) the research capacity and the research base for the change of the new curriculum; the notion and conception of the tryout activities vis-a-vis pure experimentation of the new curriculum; the bases for area delineation (subject

identification) for primary education, the integrated teaching approach versus the linear approach of school teaching,etc. The specific comments will address issues of educational evaluation and/or assessment procedures of the tryout activities, and subject area evaluation that was considered in the evaluation study. The Curriculum Evaluation and Educational Research Coordination, CEERC, and the Mathematics panel made their comments on the evaluation report as presented in this paper.

A. Comments on the General Issues

A.1 Regarding the Role and Mandate of the Institute(ICDR)

The idea of the national syllabus has to get a proper vision in that the ICDR makes only a draft syllabus or working document subject to change. The so-called national syllabus is endorsed by the full participation of the regions themselves. It may not be assumed as the ICDR's syllabus or national curricula which is to be used by regions without alterations as per their realities. What the ICDR produces is a draft syllabi sent to the region for their critical study and comments to alter, change or improve the quality and the relevance of the syllabi. Finally the improved and finalized syllabi unanimously adopted at the national workshop which comprises not only regional representatives, but also representatives from higher institutions like universities and colleges. Yet, the endorsed working document is going to be used on the basis of each regional realities and demands.

As the total mandate of primary education is the regions sole responsibility, the ICDR never interferes with the regions work; there is no need of going to regions to monitor or do routine activities for ICDR experts. Indeed, ICDR experts are expected only to provide professional and technical assistance in the regions' attempt to design and

implement the curricula. The professional and technical support of the institute is rendered for both "the strong and the weak" regions. Although the Institute gives due considerations and more emphasis in supporting the so-called weak regions, it never involves itself in writing the textual materials, but assist by providing consultation service. Moreover, the number of staff at ICDR doesn't affect considerably the professional assistance expected of the institute by the regions. It must be clearly known that the textual writing for primary level and routine educational supervision and follow ups are the mandate of the regions. The center's i.e. the ICDR's mandate is just to provide working documents, professional training and undertaking a joint-venture research evaluation so as to maintain educational standards among regions, at national and international levels.

A.2 The Research Base of the Curriculum Change

The report made on the key subject areas of primary education (language, mathematics and science,) that they were not based on research is not generally true as there have been research findings which were made at various times that indicated most students' achievements at terminal examinations to have been very low. John Stodarts of the mid 1980s, Evaluation Research of the General Educational System of Ethiopia, ERGESE's and other findings have made clear that unless measures are taken, students' achievements in the aforementioned subject areas would continue to be low. These findings and background have helped not only the experts of the ICDR to include relatively demanding contents that enhance students' rational thinking in the area of sciences and mathematics and use of communicative approaches in the language teaching but also helped in the formulation of the new education and training policy. The objectives and

contents that may seem demanding were included in the subjects with the consensus of professionals at various levels in order that trainable persons would be eventually obtained at various schooling levels.

A.3 Area Delineation or (Subjects Identification) for Primary Education:

The area delineation or subject identification for all levels including primary education were made on the bases of student profiles and educational goals defined in the Ethiopian education and training policy (1994). Eight subjects which are identified for primary level apparently are not seen as linear subjects. The methodology of teaching is not linear approach in strict sense either. The 8 apparent subjects are not considered only integrated but are also condensed to a manageable size. This is as opposed to the earlier experience of having about 13 distinct subjects areas for the same level which were considered strictly linear subjects. As to the methodology of teaching, the self-contained approach of teaching was suggested in which the teacher was oriented to present the lesson in an integrated manner and being under trial. Integration of the social sciences, the natural science with agriculture, home economics and other vocational contents is also considerable. Although certain degree of integration has been attempted, the ICDR realized that more integration is desirable and focus more to core subjects to concentrate at this level.

A.4 The Notion of Try-out and pure Experimentation:-

The new educational and training policy demands relevant educational system that solves societal problems. In line with this demand, the existing educational system was critically examined and the need of curriculum renovation was cropped up. The

system was improved in managerial activities, training aspects and improving the educational relevance by changing the existing curriculum. Based on the new curriculum new teaching-learning materials were developed and these materials are under trial. The purpose of the try-out is to check the appropriateness of the materials to each grade level in all aspects in line with the aspiration of the new education and training policy. The tryout activity should not be seen as pure experimentation that demands experimental and control group. The tryout activities are just a free-shot activity just to see the appropriateness of the materials. In line with this one should argue that the pure experiment approach is very much concerned with a totally new educational dimension were it would not only become difficult to afford but, also seems apparently artificial in modern sense where teaching-learning process is becoming simple and innovative.

B. Comments on Specific Issues:

B.1 Regarding the Evaluation and/or Assessment of the Tryout Activities

From the report the following can be read:

1. "...neither the central nor the regional level possess proper instruments for an assessment of the reform capable of identifying specific teaching and learning problems in order to overcome them in time.."

This seems far from the reality. It can be said that the assessment of the tryout activities can be done at regional and central levels. We do have appropriate instruments at all levels. For instance, for the assessment of the student learning we do have built-in assessment instruments in the textual materials. We know these instruments serve to collect data for learning outcomes. For an educational outcome, there are other appropriate instruments that we are using for formative evaluation. Apart from the instruments like questionnaires, interview schedules, observation schedules, rating scales and others that provide data related to textual

materials, we do have also the assessment instruments like tests of each subject which deal with students educational out come. This assessment mainly focuses to the profiles and the educational goals. These assessment portfolios were not understood either clearly or taken care of by the study team.

2. "The evaluation and research division at ICDR has no specific competence in the key areas of primary education, such as language, mathematics or science teaching, and does not possess the instruments that would enable it to feed the curriculum development process with necessary knowledge in this areas."

This general comment without reservation is really far from the reality. The conceptual frame work when it is said"... no specific competence in the key areas of primary education,..." is not clear, the CEERC claims that, although not in all subjects, there are qualified researchers/ evaluators at higher (master level) who are capable of developing appropriate instruments that would enable it to feed the curriculum development process with necessary knowledge. The CEERC believes that for any instrument development the qualified researchers/evaluators can produce appropriate instruments for any subject area that can serve the purpose. This does not need primary education background or specialization in any particular subject. Moreover there are methedologists that are qualified in the field of pedagogy who can develop instruments in this regard. We feel that the team was not either well informed or collected appropriate data on these specific issues.

B.2 <u>Regarding Mathematics Subject</u>

The experts at mathematics panel have gone through the evaluation comments on grades 1 and [illegible] mathematics syllabi and

teaching-learning materials under the title "W1660 KILBORN: THE CURRICULUM MATERIALS IN MATHEMATICS" (pp.79-96).

First we would like to appreciate those involved in the evaluation for their effort to let us know the results of their findings. However, we feel a common pain as evaluators in one of the parts. That is, a complete analysis of mathematics teaching in first two weeks of work may lead to a biased conclusion. On the one hand, the evaluators don't seem to have gone through the important documents of the Ministry of Education. On the other hand, because of communication problems (i.e, lack of appropriate understanding of the native languages in which the materials have been prepared and taught) could lead the evaluators not to fully grasp the information they tried to gather from individuals.

With the above points and others in mind we would like to inform this study team that the syllabi were elaborated based on the Education and Training Policy and other important documents that follow it. One such document is the Education and Training Program (ICDR, 1994) which clearly indicates the assumptions considered in area delineation. The assumptions were that it will be a whole day program, grades 1 and 2 will have 6 periods/day and grades 3 and above will have 7 periods/day with 5 school days in a week and forty minutes a period. Furthermore, greater emphasis is to made to languages, mathematics and natural sciences. These assumptions were considered when the mathematics syllabi were elaborated.

Another important point we would like to bring to the attention of the evaluators is that the draft syllabi which were initially elaborated by experts of ICDR were adopted after a thorough discussion and comments have been made on them in a workshop in which representatives from the regional education bureaux and institutions of higher learning have participated. That means, points that the experts from ICDR have not seen during the elaboration of the draft copies have been considered during the

workshop.

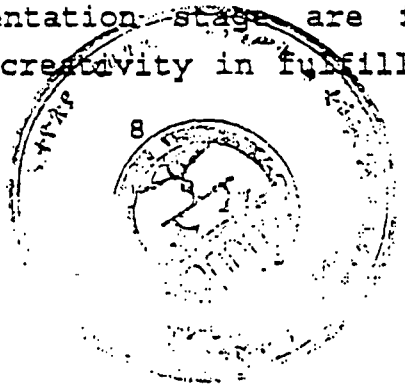
It may not be difficult to tell in advance what the results of an evaluation technique that has not taken the afformentioned points into consideration would be. If the evaluation has failed to see whether or not these points have been fulfilled, then it is no wonder to come to the conclusions made in the report that we have received now.

Moreover, the evaluators need to understand that it would practically be difficult to make a complete analysis of such curriculum materials at the trial stage and depending on results of tests that have not been carefully planed and piloted for their validity and reliability and by having a birds-eye-view on limited pages of the teaching learning materials in very limited areas.

Having said that, we would like to forward our view with regard to some of the specific questions raised and comments made in the report.

1. The mathematics syllabus for grade 1.

   a) The statement in the introduction "It is the duty of teachers to follow the guide outlined is the syllabus" indicates that since the foundation of mathematics is laid in grade one, it becomes essential to give considerable attention to the teaching and learning process in this grade; it is also to remind that the syllabus is a guide of highest importance. To this effect teachers have a duty obligation to follow this guide and other educational personnel need to see that the education process is carried out as outlined in this syllabus. This does not mean that they have to follow this guide strictly. Rather, teachers and other educational personnel starting from the planning stage up to the implementation stage are free to use their innovative and creativity in fulfilling the demands of



the society and interests of the pupils along side establishing a national standard and also considering regional and international standards. Hence, the statement quoted does not imply that teachers' dare not adjust their teaching style to the pupils' needs and free-knowledge. On the contrary it would caution teachers that appropriate teaching requires careful planning and organization and use appropriate methods. To this effect teachers need to use the syllabus, student texts, teacher's guide and other related materials during planning and during the process of teaching.

b) The contents of mathematics are both logically and chronologically arranged and in doing so the needs of the learner and aspiration of the society are considered in order to provide the pupils at each level and grade with the necessary and appropriate knowledge, abilities and skills. Further we feel that the contents should enable the learners to make increasing use of mathematical means and methods to develop a better understanding and recognition of their environment. This is clearly stated in the document entitled "Education and Training Program" (Ibid).

To this effect, the contents of mathematics in grade 1 are arranged in order to realize the objectives set. This is observed from the syllabus mentioned and the "Flow chart of mathematics for grade 1-8". The hints for the organizational implementation of instruction in the syllabus could also give clear ideas in this regard. We need to make clear distinctions between fundamental operations" and "fundamental problems of the fundamental operations". By fundamental operations, it is to mean addition, subtraction, multiplication and division; while "fundamental problems" refer to tasks or exercises of the fundamental operations up to 10. These, we feel, as many

educationists do, are pre-requisites and need to committed to memory at this grade level. So it is planned that after mastering these basic facts of addition and subtraction up to 20 mentioned in the syllabus provided that effective teaching-learning has undergone and that the demands set in the syllabus have been properly met by all concerned educational personnel.

c) Addition, subtraction and multiplication problems are presented in a variety of ways (including tables) so as to help pupils gain multivariate experiences and to ensure that they have grasped the appropriate knowledge and skills. As has been noted by Qienes(1967), learning takes place best when children are given multivariate experiences by the same event. Our experiences could also suggest that for effective mathematics learning and a better understanding of whatever is taught a learner has to be exposed to various experiences. Then we say that it is with the understanding that it is evolutionary and procedures have to be based on the resources to hand and that teachers would adjust their teaching styles according to the real-life situations.

d) Although enough has been said about teaching methods, we would like to add some points for more clarity. As has been mentioned in the introduction, the syllabus includes information pertaining to duties of teachers in general and also consists of objectives and tasks, hints on general methodology, contents and periods distribution. Further and detailed hints on the adequate teaching methods are supposed to be included largely in the respective teachers' guides. The same is true with teaching aids and the evaluation mechanisms. May be the evaluation are referring to a syllabus format they know and not the one we, including the representatives of the regional educational bureaux, have preferred to follow.

2. Regarding the teaching materials for grade 1:

The regional education bureaux have the mandate to develop the students' texts and the accompanying teachers' guides and other supplementary materials. Experts of ICDR assist the regional education bureaux in giving professional support. Educational bureaux who have requested for such assistance have been given the necessary support. As the ICDR experts do not have direct contact with the commissioned writers of the materials and that most of the writers are the ones that have not participated in any one of the workshops either to adopt the syllabus or get orientations on how they should develop these materials, we feel that the materials they have developed might not fully meet the set criteria. However, some of the drawbacks that the evaluators have cited in their reports if forwarded to the respective departments of the educational bureaux will receive due consideration for improving them in the following phases of curriculum implementation.

3. With regard to the mathematics syllabus and teaching material of grade 5. As the comments are much more familiar to those for grade 1, we feel that what has been said earlier could also serve for this purpose also.

4. Evaluation Tests:

Test results could be good or bad depending on several factors. Effective teaching and learning and properly set test items usually result in good results. The report indicates that the results were more depressing. Have the evaluators made any further investigation as to why the results were so? Do they check that the items included in the tests were valid and reliable for the purpose they were intended? For example, have they consulted the respective teachers on the items they set correspond with these items and how much time they used to allocate for tackling or answering similar items? These questions might look simple. But they could be good sources for giving a justification to the

results.

Our experiences could tell us that many teachers forget to consider time factor in setting test items or setting tasks for classroom activities or homework. For example, most teachers educate their pupils the whole period to do two or three simple tasks or exercises that average pupils in the class could manage to do in not more than five minutes. If pupils are used to working in this manner there is no doubt why their test results could not below expectations when they are faced with time constraints. Another factor is the setting of the items. If pupils are used to setting exercises in a vertical fashion but the test items are put in a horizontal one, this undoubtedly will have a negative impact on the results of the test.

What does the attitude of teachers towards the teaching of mathematics in the schools considered for evaluation look like? What about the parents' attitudes? Has this been considered during the evaluation process? The reasons for raising these questions is to bring to the attention of the evaluators and those who read the report that an evaluation based on only one technique-which in fact is incomplete in that it was not piloted is not dependable to reach at a sound conclusion and hence would be misleading for curriculum developers, other education personnel and above all for policy makers and implementers.

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SWEDISH INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
S-105 25 Stockholm, Sweden
Tel: +46 (0)8-698 50 00. Fax: +46 (0)8-20 88 64
Telegram: sida stockholm. Postgiro: 1 56 34–9
E-mail: info@sida.se. Homepage: http://www.sida.se