

*Full Length Research Paper*

# Impact of educational policy changes on home science education in secondary schools in Kenya: 1981 to 2005

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Home science is a pre-vocational subject in the Kenyan secondary school curriculum. It is designed to equip the learner not only with theoretical concepts, but also with skills that may lead to self employment. However, impact of the educational policy changes on home science education is yet to be established. The purpose of the study was to assess the impact of policy changes between 1981 and 2005 on home science education in secondary schools in Kenya. Specific objectives of the study were to find out policies guiding home science education, examine changes in home science education and assess impact of the policy changes on home science education. The study was conducted in secondary schools in Nyanza Province of Kenya. Respondents were 30 home science teachers and 150 form four home science students. Research instruments were questionnaires, interview schedule and document analysis guide. Results of the study indicated that policy changes led to evolution of the home science education in Kenya in terms of structure but very few changes occurred in terms of the content. Gains made include localization of content and textbooks. However, the curriculum has increasingly become more theoretical, yet it was meant to be practical. Teachers expressed concerns about lack of in-service training whenever new changes were introduced into the curriculum. The findings raise questions about the process of vocationalization of the curriculum in relation to planning, implementation and evaluation strategies in Kenya.

**Key words:** Home science education, contextual policy analysis, impact, curriculum evaluation.

## INTRODUCTION

Education review in Kenya has been a frequent phenomenon (Republic of Kenya, 1981; 1988; 1999). The reviews have focused on vocationalization of the curriculum to make it more relevant to manpower needs. Eshiwani (1990) and Abagi et al. (2000) attribute this partly to the emphasis the government and the people of Kenya give to education and partly to the way education has failed to respond to the various national needs. Despite this, policies that directly address the needs of technical and pre-vocational subjects particularly Home Science either continue to be largely ignored by the educational reviews, or are implemented in a disorganized manner. Since educational policies set out directives for

guiding future decisions, they may initiate or retard action, and guide the implementation of previous decisions.

Therefore, any policy decisions in one sector can have strong repercussions throughout the system (Haddad, 1996). Policy making in Kenya is centralized. Educational policies made at national or ministry level therefore impact directly or indirectly on the education sector in terms of the curriculum and the teaching and learning of home science.

Educational policy implementation process in Kenya raises fundamental questions about the impact of change and whether this impact is deliberate or inadvertent (Abagi, 1997). It is acknowledged that technical and vocational subjects such as Home Science are important in realizing Kenya's industrialization goals. This view is supported by several authors (Eshiwani, 1990; Kivuva,

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2001; Ngerechi, 2003; Saitoti, 2005). Policy change therefore raises questions as to whether the impact of change on individual subjects was deliberately considered. In a speech during a seminar for Technical and Vocational Education and Training (TVET) policy makers, the then Kenya Minister for education George Saitoti pointed out that in countries with the most rapid development, over 40% of the students in secondary schools studied technical and vocational subjects (Saitoti, 2005). It is therefore crucial that educational planners and implementers, governments and stakeholders understand how educational policy has impacted on a subject considered key to Kenya's development.

Once a policy is formulated, it needs to be interpreted in terms of actual practice. A major objective of the teaching of Home Science is to impart relevant knowledge, life skills and attitudes that will facilitate improvement of life for the individual, family and community at large (K.L.B., 2003). Home Science applies scientific principles to day-to-day living, focusing on the well being of the family which is the basic social unit in every society. The subject content integrates five broad areas: Foods and nutrition, clothing and textiles, consumer education, home management and childcare. Science subjects such as biology, physics and microbiology and chemistry provide basic concepts useful in dietetics, garment manufacture, maintenance of household equipment and disease control (Ministry of Education, 2002).

The process of policy formulation, implementation and evaluation can be discussed from different perspectives. Levin and McEwan (2001) use a linear model in three main stages: policy origins, policy adoption and policy implementation. Each stage affects the impact the policy will have on education. Ball (1994) developed a policy cycle approach that rejects the idea of separate phases of policy formulation and implementation. Ball suggests using three policy contexts: The context of influence, the context of policy text production and the context of practice. In addition to these three major contexts Ball (1994) also suggested that the context of outcomes and the context of political strategy are crucial to the understanding of policy and policy issues. These contexts formed the basis of the conceptual framework used in this study.

Policy analysis would contribute towards clarifying the link between theory (planning) and practice (implementation). Parsons (1999) defines policy analysis as an examination of how policies have performed against policy goals and what impact policy may have had on a given problem. Analysis involves examining existing or prospective policies that impact on social services such as education.

The purpose of this research was to assess impact of educational policy changes on home science education in Kenya between 1982 and 2005. Specific objectives of the study were:

- a. To find out the policies guiding home science education between 1981 and 2005.
- b. To examine changes in home science education between 1981 and 2005.
- c. To assess the impact of the policy changes between 1981 and 2005 on home science education.

The literature review was guided by a conceptual framework adapted from Haddad (1996). This framework posits that policy impact assessment cannot be studied in isolation. The framework therefore looks at policy impact in the context of several variables as follows:

- a. National priorities/education goals: The national priorities of Kenya are expressed in the national development plans as five-year goals. The education goals of Kenya are geared towards producing youth who are skilled and knowledgeable in various fields. Some goals have changed over the years depending on national priorities and therefore influence decisions as to which policies were prioritized.
- b. Interest groups: Stakeholders in various sectors have an impact on policy decisions. Although stakeholders may vary in the quality and quantity of their input, the needs of different interest groups have to be taken into consideration.
- c. Economy: Differing economic realities affect policy decisions. Kenya is a developing country and its economic output may not always meet the needs of the education sector. In that case aid agencies such as the World Bank may step in, thus becoming stakeholders with their own agendas and priorities.
- d. Socio-political structures: At each stage of a country's development, the government in power sets up institutions and governing structures that enable it to carry out its mandate effectively. While in Kenya education has always been centralized, the emphasis in different sub-sectors has varied. Challenges arise due to expectations of those involved in the education sector either as educators or as parents and students. These expectations may necessitate changes in policy as the structures shift. The analysis of the socio-political environment and institutional frameworks that influence policy decisions form the starting point of impact assessment.

The four variables discussed above are affected by or moderated by research, negotiations, ad hoc opinions and value judgments. Several authors contend that most policy decisions arise out of formal research, but they are also affected by factors such as the opinions of influential stakeholders, statements made by politicians or the views of the general public (Haddad, 1996; Abagi, 1997; Mulholland and Shakespeare, 2005; Branch and Cheesman, 2008). These perspectives build on and influence the way in which the country's educational aims are interpreted and therefore impact on what policy

options are considered suitable.

As stated earlier the policy decisions made in Kenya are centralized and changes in the education sector are mainly based on recommendations of government appointed commissions. Once an education policy is implemented, it impacts on the theory and practice of subjects taught in school. The aspects that were examined in this study were:

- a. Organization: The numbers of teachers allocated to teach home science and the organization of the department in the school.
- b. Content relevance: The match between objectives of teaching home science and content taught, the usefulness of the content for further studies, employment and self empowerment
- c. Teaching methods: Since home science is a pre-vocational subject, teachers should use a variety of teaching methods to ensure that learners acquire both the theoretical principles and practice them under controlled conditions.
- d. Time allocation: Comparison of the syllabus coverage versus the amount of time that the teachers have to teach the content.
- e. Evaluation: Evaluation methods, especially for practical aspects of Home Science.

The literature review revealed that the focus of most impact analysis studies that have been carried out consist of system evaluation rather than specific program review (Haddad, 1996; Mansen and Haug, 2002; Rasinen, 2003; Lee and Gopinathan, 2004; Georgiadis, 2005). This leaves room for inquiry on what happens to specific programs and subjects when policies are adjusted or changed altogether.

## METHODOLOGY

This study was carried out in Nyanza Province, Kenya. The sampling frame was secondary schools offering Home Science up to Form Four (n = 48). Criterion based sampling was used to select thirty secondary school Home Science teachers (62.5% of population) from 10 randomly selected districts. Simple random sampling was done to select five Form Four students from each school where a Home Science teacher was part of the sample. This yielded a sample of 150 students. One Principle Quality Assurance and Standards Officer (QASO) at Provincial level and two at district level were interviewed. Apart from the contextual analysis, data analysis consisted of descriptive statistics to obtain information used to make comparisons and draw conclusions. Open-ended questions yielded data used to reinforce the quantitative analysis.

## RESULTS AND DISCUSSION

The results and discussion are presented based on three research questions:

- a. What policies guided the changes in Home Science Education in Kenya between 1981 and 2005?
- b. What changes occurred in Home Science Education in Kenya between 1981 and 2005?
- c. What is the impact of the policy changes on Home Science Education?

### What policies guided the changes in home science education in Kenya between 1981 and 2005?

The policies are looked at from four angles: National priorities, socio-political structures, the economy and interest groups.

a. National priorities: The Report of the Presidential Working Party on the Second University (Republic of Kenya, 1981) was a key document in the restructuring of education in Kenya. The recommendations made by this Working Party were implemented through sessional paper number 8 of 1981. It brought a change in the structure of education from 7-4-2-3 system (7 years of primary education, 4 years of secondary education, 2 years of high school education and a minimum of 4 years of university education) to 8-4-4 system (8 years of primary education, 4 years of secondary education and a minimum of 4 years of university education). Priority was given to teaching of science and technology with an aim of making school leavers at every level self-sufficient in employment. Home Science was made an examinable subject at primary school level. The practical application of principles was emphasized through projects at every level.

Sessional paper number 1 of 2005 set out the policy framework for education, training and research for the 21<sup>st</sup> century (Republic of Kenya, 2005). The priority set out in this document is that of attainment of education for All (EFA), with emphasis being on Universal Primary Education (UPE). The policy is guided by the understanding that "quality education and training contributes significantly to economic growth and the expansion of employment opportunities". The overall vision would be to ensure economic recovery at a time in Kenya's history where the economy was run down and foreign debt was overwhelming.

b. Socio-political structures: Since the attainment of independence in Kenya in 1963, the education sector has grown tremendously. The Ministry of Education is responsible for the education sector policy development, planning and development of sector strategies and regulation of the provision of education and training services by other providers (Republic of Kenya, 2005). Various acts of parliament govern education provision and management. From independence to the late 1980's Kenya had a single Ministry running Education. In the 1990's the name was changed to the Ministry of Education, Science and Technology in order to reflect the growing emphasis on science and technology. Currently,

education is run by two Ministries: Basic Education and Higher Education, Science and Technology. The split in the ministries may have created a chance for better control of the sector but also raises questions of continuity.

The Teachers service commission (TSC) Act of 1967 ensured that there was a single employer for all teachers. Regardless of actual needs in the schools, the TSC posted and employed all trained teachers. Their terms of service were unified and their employment guaranteed. However, following pressure from the Bretton Woods institutions, Kenya began to institute structural adjustment programs (SAP's) that affected teachers' employment. This was justifiable considering that the budget allocation for education was 34.9% of total recurrent expenditure, and that Kenya was a heavy borrower from these two institutions, namely World Bank and the International Monetary Fund (Mwega and Kabubo, 1993). In 1990, the government agreed to reduce the number of employees through retrenchment, to stop guaranteeing university graduates employment as civil servants and teachers and to hold salary increments to 4% per annum (Akala, 2005).

Currently, school boards are charged with teacher recruitment on behalf of the TSC. The TSC carries out periodic recruitment, depending on its projected needs. Those employed are usually already school board employees. Since the minimum expected number of lessons for a teacher is set at 24 (Akala, 2005), Home Science teacher recruitment is adversely affected. As an applied subject, a Home Science teacher in a single stream school has 14 lessons per week. This has led to a reduction in the number of schools, and therefore students taking the subject at Form Four nationally. Secondly, the employment rates for graduate Home Science teachers have reduced. In response, Home Science, formerly offered as a double subject in four public universities is only taught at Kenyatta University. At Egerton University it is offered as part of the Bachelor of Agriculture degree. It is ironic that in a country that seeks to use technology as a means of achieving economic development that there is total devaluation of the very subjects supposed to achieve this end. The role of Technical and Vocational Education has been stressed over and over but there seems to be a divide between policies and practice (Eshiwani, 1990; Johanson, 2002; World Bank, 2002; Ngerechi, 2003; Saitoti, 2005).

c. Economy: Modalities for cost-sharing were one of the key elements of the presidential working party on education and manpower training for the next decade and beyond (Republic of Kenya, 1988). The Working Party stated that beneficiaries of education should incur most of its cost. Equipment for practical subjects was previously supplied by the Science Equipment Production Unit under the Ministry of Education. This was meant to ensure that all schools were fully equipped to teach practical subjects. However, it may be noted that the

equipment was mainly for science subjects- Biology, Chemistry and Physics- rather than for technical subjects like home science (Republic of Kenya, 1988).

In accordance with this new policy, learners who selected Home Science at secondary school had to cater for their own requirements for practical sessions. Some schools established a fee that was paid directly to the school. In other schools the learner provided actual learning materials and equipment, including fabric and sewing kits. Due to the expenses involved, some schools could not afford to equip their Home Science laboratories and many students made do with rudimentary equipment. In poorer schools there was no provision made for replacements as breakages and losses occurred. It may also be surmised therefore that with the worsening learning environment due to the degeneration of facilities, Home Science teaching and learning was compromised, especially in communities that were not economically endowed (Abagi, 1997).

d. Interest groups: In evaluating a program, interests of those to be affected by the resultant changes have to be taken into consideration. The degree to which this is done depends on the model under which the evaluators operate. The appointment of educational commissions in Kenya is done by the president. Each commission consists of a pool of experts. The reports used in this study indicate a pattern. Task forces are appointed to collect data on each of the objectives. The sittings are held in the provinces and the public give its views as per the questions asked. It is from these deliberations that the committee makes recommendations. In addition, the interests of the government of the day and the interests of donors such as the World Bank contribute to the recommendations of the final document. It is notable that in the report of the 1988 review (Republic of Kenya, 1988), while there is acknowledgment of the contributions from all provinces and from various stakeholders, there is no indication of these contributions in the appendices, bringing into question whether these views were taken into consideration.

### **What changes occurred in home science education in Kenya between 1981 and 2005?**

Prior to 1985 Home Science was taught as three subjects: Clothing and Textiles, Home Management and Foods and Nutrition (KIE, 1981). They were merged into one subject named Home Science with the inception of the 8-4-4 system of education. However, there was little change in terms of content. The new syllabus was heavily loaded with content. Teachers who had specialized in only one of the disciplines of Home Science were faced with the task of learning new skills. In addition, few schools offered the three options. This meant that they had to equip their Home Science laboratories to accommodate the combined subject.

During this period, the emphasis of education policy

was on vocationalization of the curriculum with an aim of making students self reliant after they left secondary school (Republic of Kenya, 1988). The syllabus was skewed towards practical work. However, because of the merged subjects the amount of practical work to be done increased three fold. In 1980, the Kenya National Examinations Council (KNEC) was established to administer examinations nationally. Following changes in the curriculum the nature of examining Home Science also changed. By 1981 three papers: Clothing and Textiles, Foods and Nutrition and Home Management were examined at Ordinary Level (O'Level) and Advanced Level ('A'Level). Each of these was tested by a 2 h written paper and a 2½ h practical paper. In addition, students taking Clothing and Textiles submitted two articles- garments or a garment and an item illustrating skill in embroidery (KIE, 1981). In 1985, examinations consisted of a 2 h theory paper in three sections, a 2½ h practical paper on clothing construction and a 3 h practical paper on Foods and Nutrition with a component of Home Management. In addition, learners had to produce an outfit consisting of a skirt and blouse, a dress or a shirt and a pair of trousers as course work.

In 2005, a further circular from the Kenya National Examinations Council reduced the number of examinable subjects from 13 to 7 (maximum 9). While the circular states that students must offer at least one subject from the applied and technical subjects, clustering of the subjects into compulsory and non-compulsory ensured that students could drop the applied and technical subjects at form three (KNEC, 2005).

The syllabus and the examinations were burdensome to the learners, especially considering that, comparatively, number of lessons allocated for Home Science was low- 4 per week in the lower classes, and 5 per week in Forms 3 and 4. It became difficult to complete the syllabus and gain any mastery in the tasks allocated. Subsequently, in 2005 the examinations format was revised (KNEC, 2005). Currently, learners sit for a 2 h theory paper, a 2½ h practical paper on clothing construction and a 1½ h practical paper in Foods and Nutrition.

Learners no longer do practical coursework for marking at the end of form four. The Home Management component has also been removed. However, the number of lessons per week has been reduced to three per week at the lower levels and four at the upper levels.

Due to the liberalization of the textbook market, more local authors started to produce books to replace those written by foreign authors. This meant that the students taking Home Science were able to use books that more closely represented their living environments.

### **What is the impact of policy changes on home science education?**

The respondents filled out questionnaires that indicated

their perceptions of the impact that the changes in policy have had on Home Science teaching and learning in relation to organization, content relevance, teaching methods and time allocation as discussed below:

#### ***Organization***

The numbers of teachers allocated to teach home science were thought to be adequate in most of the schools. However, the teachers felt that they were disadvantaged by not having laboratory assistants such as those deployed in the sciences. They felt that their workload was significantly increased by having to prepare the laboratories for practical lessons even though they had a full lesson load. In 21 schools, the teachers in charge of the department had access to all the current information regarding the changes in the syllabus. Only 1 teacher stated that this information was not readily available and that she usually found out information from Home Science teachers in other schools. Some of the organizational challenges facing the teachers, ranked in order of percentage are: Lack of inclusion in curriculum evaluation (97%); lack of clear feedback mechanism whenever there were changes in curriculum (91.5%); and the lack of opportunities for in-service training and refresher courses (82.1%).

#### ***Content relevance***

The study assessed the match between objectives of teaching home science and the content taught and usefulness of the content for further studies, employment and self empowerment. It was found that there was a close match between the objectives and the syllabus and prospects for further studies. Only 7 of the topics had irrelevant ratings.

#### ***Teaching methods***

Teachers indicated that they mostly used two teaching methods: expository approaches and demonstration techniques. Since the syllabus no longer requires course work to be assessed at the end of Form Four, practical work in clothing and textiles is no longer a priority.

#### ***Time allocation***

Although the number of lessons per week was reduced in 2005, teachers are still able to cover the syllabus due to the reduction in the amount of practical work expected.

The study revealed that while officers at the provincial education office are charged with the responsibility of coordinating education activities in the province, at the district headquarters there are no quality assurance

officers with a technical background. This raises important questions on the extent to which they can effectively monitor home science teaching and learning. Most teachers indicated that these officers had never come to the schools to discuss curriculum implementation or any issues the teachers had with the syllabus.

## CONCLUSIONS AND RECOMMENDATIONS

This study was designed to assess impact of policy changes on home science teaching and learning. The literature review covered the content and contexts of home science education during the period 1981 to 2005. Policies are formulated by the government, and implemented through the ministry of education.

However, the focus of the policy depended on the socio-political structures, the priorities of the donor communities and the state of the economy more than the needs of actual stakeholders and implementers of the change. In addition, review of curriculum rarely took into account the requirements of individual subjects. The data collected indicated that while there had been a reduction in the syllabus content, the practical aspects of Home Science have been so reduced as to beg the question of whether it is still a technical/vocational subject. The teachers also expressed concern at not being consulted whenever there were changes in the Home Science curriculum. When changes were implemented there was little effort by the Quality Assurance and Standards personnel to find out the challenges teachers were facing. Indeed, it was clear that there is little being done to ensure teachers develop competencies in implementing changes.

While there have been many changes in Home Science Education, it is clear that there are many challenges. This study therefore recommends that it is necessary to create specific guidelines for the review of Home Science Education away from the wider mandate of curriculum-wide review. There also needs to be greater involvement of teachers as curriculum implementers in the review process. It is important that quality assurance and standards officers who are experts in Home Science be posted to district education offices. They will therefore be able to advise teachers on how best to institute any changes in policy. Finally, the study recommends that there should be an overhaul of the Home Science syllabus to give due emphasis to the practical aspects of a technical/vocational subject.

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