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# Harmonizing Seed Policies and Regulations in Eastern Africa

Experiences and Lessons Learned

**ECAPAPA**

Eastern and Central Africa Programme for Agricultural Policy Analysis

A programme of the Association for Strengthening Agricultural Research in Eastern  
and Central Africa (ASARECA)

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Harmonizing Seed Policies and

# Regulations in Eastern Africa: Experiences and Lessons Learned

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The Eastern and Central Africa Programme for Agricultural Policy Analysis (ECAPAPA) is a Programme of ASARECA—the Association for Strengthening Agricultural Research in Eastern and Central Africa. ECAPAPA is working to improve agricultural policy in the region and to bring the national agricultural research systems into this process. The mission of ECAPAPA is to create an inclusive agricultural policy

network in the region of eastern and central Africa to serve as a basis for improved agricultural policy analysis and formulation. ECAPAPA is a regional Programme with support from a number of organizations including the US Agency for International Development's Africa Bureau for Sustainable Development, and its Regional Economic Development Support Office (REDSO), the International Development Research Centre (IDRC) of Canada, the Swiss Agency for Development, and Agricultural and Rural Cooperation (CTA) of Africa, Caribbean and Pacific-European Union (ACP-EU) countries.

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## **Abbreviations and acronyms**

AOSCA Association of Official Seed Certifying Agencies

ASARECA Association for Strengthening Agricultural Research in Eastern

and Central Africa

CTA Technical Centre for Agriculture and Rural Cooperation

EASCOM Eastern Africa Seed Committee

COMESA Common Market for Eastern and Southern Africa

EAC East African Community

ECA Eastern and Central Africa

ECAPAPA Eastern and Central Africa Programme for Agricultural Policy Analysis

FAO Food and Agriculture Organization of the United Nations

IFS International Seed Federation

IPPC International Plant Protection Convention

ISHI International Seed Health Initiatives

ISTA International Seed Testing Association

NARS national agricultural research system

NARI national agricultural research institute

NRP national resource person

OECD Organization for Economic Cooperation and Development

RRP regional resource person

SADC Southern Africa Development Community

UPOV International Union for the Protection of New Varieties of Plants

USAID/ United States Agency for International Development/

REDSO/ Regional Economic Development Support

ESA Eastern and Southern Africa

## Preface

The strategic objective of the Eastern and Central Africa Programme for Agricultural Policy Analysis (ECAPAPA) of ASARECA is to create an enabling agricultural policy environment to facilitate agricultural transformation in the eastern and central Africa region. One of the ways to respond to this objective is through rationalizing and harmonizing agricultural input and output policies.

One of the most successful initiatives of ECAPAPA in the last five years has been the rationalization and harmonization of seed policies, laws, regulations and procedures in eastern and central Africa. This monograph documents in a chronological manner the path that ECAPAPA's Seed Initiative has traveled to date.

Very often important experiences and lessons learned from our work are not recorded. Project staff find themselves at a loss as to how to start implementing projects, unaware that a successful process or method has been used in the past. This lack of information often leads to false starts or duplication resulting in wasted resources. This monograph attempts to fill that knowledge gap. In the process, some key experiences and lessons are noted, which may be of use in similar on-going initiatives or those to come.

My deep gratitude is due to the many institutions and individuals who have contributed and still continue to work so hard in this initiative. A few deserve special recognition—the ASARECA Secretariat, the national agricultural research institutes, the Seed Regional Working Group, and seed companies and regulators in the ministries of Agriculture and Trade. Donors, particularly the United States Agency for International Development, are thanked for steadily supporting the initiative in the last five years. We also appreciate assistance from the Technical Center for Agricultural and Rural Cooperation in supporting some of the regional forums for this initiative.

*Isaac Minde*  
*Coordinator, ECAPAPA*

## **Introduction**

### **Putting agricultural policy on the agricultural research-for-development agenda**

In 1997, the committee of directors of the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA) created the Eastern and Central Africa Programme for Agricultural Policy Analysis (ECAPAPA). ECAPAPA's role is to improve agricultural policy research and analysis in the eastern and central Africa (ECA) region and to bring the national agricultural research systems (NARS) into the policy-change

process. The programme was developed in close collaboration with agricultural and social research scientists, agricultural policy analysts from both the public and private sectors, NGOs, academics from regional and overseas universities, international agricultural research centres, ASARECA's commodity-based networks and interested donors.

Appropriate policies, technologies and institutions are important in all efforts aimed at attaining economic growth and food security for all in sub-Saharan Africa in ways that ensure natural resources are managed in a sustainable manner. To be successful, actions taken by any government must be based on a comprehensive understanding of how technology, policy and institutions interact. Even the best technology may fail to achieve its social objectives if policies are inappropriate or if appropriate institutions are not in place.

To design and implement appropriate policies and institutions, decision makers must have access to relevant and timely knowledge about policy options and their likely consequences. It is the role of policy researchers and analysts to generate such knowledge.

## **ECAPAPA's main research-for-development projects**

ECAPAPA's goal is to contribute to increased economic growth, eradicate poverty and arrest environmental degradation through applying appropriate agricultural policies. The overall objective of ECAPAPA's interventions is to create an enabling agricultural policy environment to facilitate agricultural transformation in ECA. In many ways policy is linked to poverty and development. There are several examples of policies and institutions that may render new technology useless for farmers and society. These include:

- lack of investment in rural infrastructure
- non-tariff barriers that constrain movement of technology, goods and services
- low-price policies for agricultural products
- high costs of fertilizers and other agricultural inputs
- poorly functioning markets
- unclear or lack of intellectual property rights

Achieving sustainable development and reducing poverty depend on the extent to which governments are willing to enact policies that deliberately focus on the end user. But governments alone cannot achieve development without collaborating with other institutions such as civil society organizations and the private sector.

## **The ECAPAPA Seed Initiative**

One of ECAPAPA's areas of priority is to rationalize and harmonize agricultural policies, laws, standards and regulations in eastern and central Africa. A specific task in this area is to rationalize and harmonize seed policies, laws, regulations, procedures and standards. This monograph traces the history of ECAPAPA's Seed Initiative and highlights the achievements and lessons learned. The initiative started in 1999 with



Kenya, Tanzania and Uganda as pilot-phase countries. In 2002, the second-tier countries comprising Burundi, Eritrea, Ethiopia, Rwanda and Sudan were incorporated. The third and final group of countries—the Democratic Republic of Congo and Madagascar—were brought into the initiative in 2003.

## **Motivation to harmonize the seed industry in eastern and central Africa**

The seed industry faces many different laws, standards and regulations in each country, which are costly to meet. These high costs coupled with the relatively low level of effective demand make it unprofitable for either local or international seed companies to make the investment required to provide the quantity, quality and variety of seed needed to support an expanding agricultural base in the ASARECA region.

The laws, regulations, administrative and technical procedures that each country imposes are restrictive, impede trade and place unjustifiably discriminatory demands on importers, exporters and even domestic producers of seed. In addition to these restrictions, vast resources from both the public and donor community are spent to finance agricultural research in ECA. To reap the benefits of global advances in agricultural research and development, countries will need an environment that enables cross-border research and development flows. Farmers can benefit from regional cooperation in agricultural research with faster movement of seed, among other inputs, across national boundaries. Regional cooperation is therefore important to conform with emerging global standards for intellectual property rights, biosafety, phytosanitary standards and biotechnology.

The economies of the ECA countries, as in most African countries, are heavily dependent on agriculture. Seed is a key input in agricultural production. If agriculture is to remain competitive in ECA, then the seed industry within the region needs to be improved. Harmonizing seed laws, policies, standards and regulations among the countries of the region could help establish a common regional market with a demand large enough to induce needed investment and create the competition required to establish a viable and efficient seed industry. The ECAPAPA Seed Initiative was undertaken to address these challenges.

### ***Identifying an agenda for agricultural policy research***

Identifying an agenda entails identifying and building consensus on priority areas for policy research and analysis.

This is carried out through a participatory, transparent and inclusive manner involving key stakeholders in the region and beyond. In this seed initiative, problems and identified constraints were recognized and appreciated by a wide range of stakeholders. More specifically, coordinators of ASARECA's commodity-based networks were concerned with the difficulty of moving germplasm material across borders. These concerns were expressed to ASARECA's Committee of Directors, which led to a proposal for the initiative being development. From the start therefore, there was a clear, common-felt need for this engagement which undoubtedly accounted for the success of the initiative.

### ***Policy data***

Collecting policy data to document the effects of policies is accomplished through various means.

In the seed initiative, consultants were recruited as national experts (referred to in ASARECA/ECAPAPA as national resource persons) to collect and analyse data on seed in the participating countries. The data collected included quantitative data related to types and quantities of seed produced, and seed traded (imports and exports); and qualitative data and information relating to the process of variety evaluation, release and registration, procedures and regulations for seed certification and seed import and export, as well as information on plant variety protection systems in place. Also documented were policies, laws, regulations and procedures related to all the above. These national resource persons (NRP) were backed up by a regional resource person (RRP) whose terms of reference included analysing the country reports and assisting in further articulating areas that needed to be rationalized within countries as well as coming up with a regional synthesis of areas that could potentially be harmonized.

### ***Policy data analysis***

Policy data analysis to strengthen knowledge to inform policy choices.

In policy data analysis key tendencies (means, standard deviations) are identified, gains

and losses (winners and losers) are determined, and issues and recommendations are distinguished and categorized as legislative, procedural or administrative. A set of policy options is identified that goes through a peer review process to make the whole exercise thorough and scientific, and to guide the policy dialogue phase. The participation of key stakeholders is critical at this stage.

During the seed initiative, the NRPs used the data and information collected and held meetings with key stakeholders to clarify issues. National seed laws, regulations and standards were reviewed to establish the extent to which they accelerated or slowed down movement of seed in the region. Gaps in the laws and inadequate legislation hampering seed production and commercialization were identified.

### ***Policy dialogue to strengthen links between analysis and action***

Policy dialogue involves creating forums where stakeholders come together to discuss recommendations analysed during policy data analysis. Information may also be exchanged through hard copy or electronically for discussion. During the seed initiative, ECAPAPA created two levels of dialogue: national and regional. The national forum focused on areas of rationalization and those amenable for harmonization while the regional forum dealt with issues that could be harmonized across the region and how the implementation would be carried out.

### ***Policy action to implement policy changes***

This final stage of the policy-change framework is the concrete phase where recommendations agreed on during policy dialogue are translated into laws, regulations, standards and procedures. The most important intermediate results from policy actions are changes in institutional practices. For the seed initiative, policy action means

- new plant varieties are evaluated, released and registered in a standard way
- there is a reduction in the time taken for release
- the number of release committees has reduced
- a procedure has been harmonized across the region
- documentation procedures for importing and exporting seed have been harmonized within individual countries or across the region.

Policy action may also mean selecting a set of crops for compulsory certification across the region and setting up certification standards for these, or putting in place seed legislation to protect plant varieties. Although ECAPAPA is not mandated to deliver policy action, it has done this indirectly by facilitating the enactment of seed laws of varying nature in the region and creating regional coordinating mechanisms for implementing and monitoring the agreements.

Overall, this five-pronged approach ensures that ECAPAPA commits itself to such values as empowerment, inclusiveness, ownership, participation and transparency.

# The process of harmonizing

## The pilot phase

### ***Project formulation***

In September 1996 the ASARECA Committee of Directors—the directors general of the 10 national agricultural research organizations of Burundi, the Democratic Republic of Congo, Eritrea, Ethiopia, Kenya, Madagascar, Rwanda, Sudan, Tanzania and Uganda—directed the ASARECA Secretariat to develop a project proposal for a study on harmonizing seed policies and regulations in the ECA countries. This was the first step in getting to work on harmonizing the seed sector in the region.

ECAPAPA, through the Secretariat, developed the proposal in 1997 and recommended that the study initially be confined to the three East African countries—Kenya, Tanzania and Uganda as pilot-phase countries—because they already had in place a regional cooperation treaty, the East African Community. USAID-REDSO agreed in 1998 to finance the initiative. Project implementation began on a pilot phase in the three countries in September 1999 using ECAPAPA's framework for policy change shown on page 3.

Through literature and consultation with key stakeholders, the initiative noted five specific areas that needed to be addressed to achieve the objective of harmonizing seed-related regulation and laws in the region. These areas were:

*variety evaluation, release and registration:* procedures for evaluation and release of new varieties were different in each country and often too lengthy, blocking rapid transfer of technology to farmers.

*seed certification:* standards were different for each country.

*phytosanitary regulations:* regulations were often based on non-scientific data, thus making them trade barriers. Different phytosanitary standards and requirements for imports interfered with seed trade between countries. There were also differences in requirements for importing or exporting.

*plant variety protection:* of the three East African countries only Kenya had legislation on plant variety protection (PVP) based on the UPOV 1978 Convention. (UPOV stands for the International Union for the Protection of New Varieties of Plants). There were no PVP laws in Uganda and Tanzania. Lack of PVP has a negative effect on the development and introduction of new crop germplasm as breeders are not given incentives (royalties) to motivate them to continue to produce new varieties.

*seed laws and regulations:* laws and regulations governing the development of the seed trade for local seed industries and the entry of foreign seed companies, including those from neighbouring countries, were restrictive and constrained participation of the private seed

industry in variety evaluation, release and certification.

### ***Policy data collection and analysis***

The second step was to commence the study in the pilot-phase countries in July 1999 when three NRPs, one for each country, were selected to undertake studies in their respective countries on seed laws, policies, regulations, standards and procedures. This exercise lasted from September 1999 to February 2000. Annex 1 shows the terms of reference for the country consultants that were used in Kenya, Tanzania and Uganda. Each NRP produced a detailed country report.

An RRP backed up the activities of the national resource persons. Among the RRP's terms of reference was to come up with a regional synthesis of the three country reports to identify areas that potentially could be harmonized.

#### CONSULTATIVE WORKSHOP

The third stage was a consultative workshop held in February 2000 for the national and regional resource persons and the ASARECA/ECAPAPA secretariat to review the resource persons' reports, and recommendations from the national stakeholders' consultative workshops. Two external experts were invited to moderate the review: Dr Joseph Cortes from the Seed Science Centre at Iowa State University in the USA, and Dr Vincent Gwarazimba, the general manager of Zimbabwe Seed Trade Association.

Participants deliberated in some detail on how strict regulations hampered trade and dissemination of new seed varieties in a country and across countries. During this consultative meeting, it was noted that

- The commercial seed sector in the three countries was quite small. For maize, the most widely traded crop, in 1996 Kenya traded 25,000 t, Tanzania 5,000 t, and Uganda traded less than 1,000 t. Compared with Zambia with 30,000 t per annum, Zimbabwe with 50,000 t and South Africa with over 100,000 t, it was obvious the seed sector in East Africa was quite small and had a long way to go to get farmers use modern seed—the hallmark of any agricultural revolution.
- Each country had its own very strict regulations (at least on paper) on trade in seed. These created both tariff and non-tariff barriers. The latter were even more restrictive. For example, for a maize breeder in Tanzania who had bred a new maize variety (a process that takes 5 to 10 years to complete) another 3 to 4 years were required to test it locally before its release and a minimum of a year before it would be certified. It could take another 2 years before it was more widely produced and marketed locally in Tanzania.
- It would on average take 10 to 15 years from the start of the breeding cycle before such a new variety entered the market. If this seed were to be certified and registered in Uganda and Kenya, it required another 4 to 5 years of testing in each country and a minimum of a year for certification. Farmers therefore had to wait 10 to 15 years before they could benefit from agricultural research done in their own country, and 15 to 20 years for that done in a neighbouring country.
- Other trade restrictions took another 2 to 3 years to resolve before large-scale trade in

seed could occur. It took up to 20 years before there was widespread dissemination of seed to farmers from the date the research programme came up with a successful variety on the research station.

A major conclusion of these studies was that seed laws and regulations were restrictive. Instead of allowing farmers access to seed and facilitating trade, they denied farmers access to high-quality seed that were a major product of research systems.

This consultative meeting also agreed on recommendations and laws that could be harmonized in each of the three countries to ease movement and trade of seed, at the same time ensuring there were adequate safeguards to avoid spread of diseases and pests through seed trade.

#### NATIONAL CONSULTATIONS

In the fourth step, the NRPs organized consultative workshops (one in each of the three countries) between October and November 1999, to inform and consult national stakeholders on the process. These workshops lasted for two days in each country and comprised a maximum of 50 participants from a wide cross section of institutions in the seed sector. The objectives of these consultative workshops were to

- review and validate the reports by NRPs
- obtain comments and additional issues to consider
- make recommendations for rationalization
- make recommendations for harmonization.

Smaller national workshops of 12–15 high-level policy makers were held in each country between February and March 2000. Unlike the first consultative national workshop, these were confined to customs and legal experts, and policy makers in the public and private sector responsible for enforcing regulations such as seed certification, phytosanitary and variety issues. These high-level meetings also selected 10 representatives from national seed stakeholders to a regional consultative workshop, which was held in Entebbe, Uganda, in April 2000.

#### REGIONAL CONSULTATIONS

The final stage was holding regional consultations. This first regional workshop was held 4–8 April 2000 in Entebbe, Uganda. The meeting brought together over 40 experts from the region, who addressed the following three main issues for the harmonization process by building on the outcomes of the national workshops:

- variety evaluation, release and registration
- seed certification procedures and standards
- phytosanitary regulations and procedures

The second regional workshop was held from 26 to 30 June 2000 in Arusha to address the following outstanding issues from the first regional workshop that had not been addressed for lack of time:

- import and export procedures

- plant variety protection
- regional coordinating mechanisms for implementing and monitoring the agreements reached in the two regional workshops.

This meeting brought together 46 participants from both the public and private sector (Box 1) and included regulatory bodies, private seed companies and associations, farmer associations and donor agencies. One delegate in an observer position represented Ethiopia. The workshop was organized into a one-day opening plenary session (26 June), three days for group discussion (27–29 June) and one day for a final plenary session (30 June) to summarize and adopt the agreements reached including those from the first regional workshop.

Discussions were undertaken in four groups

- Group 1: variety evaluation, release and registration
- Group 2: phytosanitary issues
- Group 3: cross-cutting issues
- Group 4: plant variety protection

## **The need for partnerships**

The ASARECA/ECAPAPA seed initiative is part of a larger Sub-Saharan Africa Seed Initiative being coordinated by the World Bank. ASARECA/ECAPAPA benefited from this larger initiative through technical expertise during the first and second seed regional workshops, held in Entebbe and in Arusha respectively (see Box 1 for a list of partners during the second regional consultative workshop).

This initiative also benefited from literature from personnel from the World Bank. Staff from the Iowa State University's Seed Science Centre have world-wide experience in matters of seed technology and policies and it was beneficial to work with them to tap their experience.

The East African Community (Box 2) emphasizes developing research, exchanging research information and strengthening regional capacity in science and technology. Agricultural research is particularly given special attention. Since the start of the seed initiative, EAC provided the much needed additional political support and necessary guidance. As an example of such support all regional meetings were presided over by staff from the EAC Secretariat.

### ***Policy action—strengthening implementation of desired policy changes***

Policy action, the last part of the policy-change cycle, translates recommendations into laws, regulations and procedures. The most important intermediate results from policy actions are changes in institutional practices. Although ECAPAPA is not mandated to deliver policy action, it has done this indirectly through such mechanisms as facilitating the

formation of stakeholders' associations which exist in the three East African countries.

The oldest, the Seed Trade Association of Kenya (STAK), was established in 1982, the Tanzania Seed Traders Association in 2002 and the Uganda Seed Trade Association in 2002. Common activities of these seed associations include bringing together seed traders and institutes in the country, keeping statistical data on the seed industry, affiliating with international seed institutes, building capacity of national institutions in phytosanitary issues, and participating in formulating national seed policies, laws and regulations. These seed associations also are the link to international seed bodies. The associations will jointly with the EAC's Agriculture and Food Security Committee (Box 2), publish the regional variety catalogue and oversee the editorial work, printing and distribution. The catalogue will be published every 3 years, though annual supplements will be released to update yearly releases. Box 3 shows the activities of STAK.

#### A SEED REGIONAL WORKING GROUP IS BORN

ECPAPA also facilitated the constitution of a regional body—the Seed Regional Working Group—during the second regional workshop. The mandate of this working group is to oversee completion of the standardization of the harmonized regulations and procedures including the oversight role for their overall implementation, and to improve and strengthen cooperation in the seed sector in the region (Box 4). All seed matters are discussed in this common front.

## **Agreements**

The regional consultative workshops drafted agreements that were broadly placed into two categories: procedural and legal.

#### PROCEDURAL AGREEMENTS

Agreements in this category did not require change in legislation and had the potential of being implemented immediately. The national certifying authorities, among others in the three countries, took the responsibility of operationalizing these.

All changes that required the attention of the ministers of Agriculture were procedural. In such cases the institutions and authorities responsible for implementing the change sought ministerial approval for any changes in procedure. The role of the Ministries of Agriculture was to approve changes in procedure as recommended by the responsible government authority or authorities, coordinate the implementation of the harmonized legislation, and provide financial support to subordinate institutions implementing the changes in the regulations, procedures and standards where necessary.

#### LEGAL AGREEMENTS

The second category of agreements required a change in national legislation. Such changes required and will continue to require the approval of lawmakers (parliament) or fast-track action of the attorneys general. Relevant authorities, such as the national certifying authority, through the Ministry of Agriculture in consultation with legal experts, prepare



draft changes and proposals (agreements) and provide relevant justification where necessary. Such papers will then be shared with designated legal advisors in the Ministry of Agriculture.

## **The benefits of harmonizing**

A summary of the agreements made from the first and second regional workshops is provided in table I. It also shows what the situation was before intervention and the benefits that derive from the changes. The open and inclusive way of working that is the hallmark of the policy-change cycle has increased transparency and efficiency in the sector.

Following are examples of outstanding achievements of the harmonization process.

### **STREAMLINING VARIETY EVALUATION, RELEASE AND REGISTRATION PROCESSES**

Streamlining variety evaluation, release and registration processes has resulted in

- registration of more private seed companies: in Uganda, the number rose from 5 in 1999 to 12 in 2003, in Tanzania from 13 in 2000 to 21 in 2004, and in Kenya from 38 in 2001 to 47 in 2004.
- more varieties released: in Kenya, less than 5 varieties were released in the 1990s. This improved to 11 in 2002 and 27 in 2004, with the majority being released by private seed companies. In Tanzania, the number of varieties released improved from 8 in 1999 to 16 in 2004, which also included several varieties from the private sector.
- shorter testing period: the mandatory three years of national performance trials was reduced to one main season, but with back-up breeders data from similar agro-ecozones.
- reduction of variety release committees from three to only two: one technical and the other on policy.
- production of a national variety list for all the three countries, and a regional variety list for Kenya, Uganda and Tanzania.

### **HARMONIZING CERTIFICATION STANDARDS**

Harmonizing certification standards for the 10 crops has resulted in:

- setting in motion review of the Seeds Regulations in Kenya, putting in place a new Seeds Act of 2004 in Tanzania, and a Seed Statute 2003 in Uganda.
- setting in motion review of the Seeds Act to incorporate accreditation of seed certification and testing services in Kenya
- application by Uganda for membership to the International Seed Testing Association and Organization for Economic Cooperation and Development.

### **HARMONIZING PHYTOSANITARY REGULATIONS**

Harmonizing phytosanitary regulations has resulted in:

- the reduction in number of phytosanitary restrictions on the 10 selected crops from 33 to only 3 pests

- awareness amongst phytosanitary officers in the three pilot-phase countries of the importance of sharing phytosanitary information including compulsory notification of new pests, as well as the need for a pest list for the region
- reduction in time taken to obtain phytosanitary certificate from 1 week to 1 day in Kenya, and from 2 weeks to 2 days in Uganda.

#### PLANT VARIETY PROTECTION

Only Kenya had a PVP system. Harmonization has created awareness of the need for PVP legislation and this has resulted in a PVP Act of 2003 in Tanzania with PVP offices in place in 2004, and a Draft PVP Bill for Uganda now with Uganda's parliamentary committee.

#### IMPORTING AND EXPORTING SEED

Seed volumes traded within the three EAC countries have increased. This is attributed to streamlining of export and import documentation, which were agreed on as plant import permit, phytosanitary certificate, customs clearance documents, and quality certificate from source.

#### INDIRECT BENEFITS

Intangible benefits such as lasting partnerships have resulted. The initiative facilitated forums for the public and private sectors to meet as equal partners to develop the seed sector. Specialists provided useful advice on innovative ways of making policy change—such as defining procedural and legal agreements—thus turning what appeared to be hurdles into a process that empowered national bodies to implement change while at the same time maintaining the focus on expanding the seed trade and increasing food security. Hitherto, there was the misplaced belief that the public sector was the de facto leader and decision maker, and the private sector the 'follower'. The initiative has diffused this distinction. The private sector will henceforth participate in several functions in the seed sector such as in certifying seed varieties previously the preserve of the public sector.

This initiative catalysed facilitating information and knowledge sharing in the seed sector in Africa and beyond. The project now links regional seed subsectors with global seed structures (Box 5). Facilitating technology inflows requires conformity with worldwide seed health systems that will give effective protection against the international spread of seed-borne diseases. Tuning to as well as tuning the global seed system is gradually beginning.

The initiative also brought together scientists, public and private sector officials working in the three countries in the same industry to meet, know each other and exchange ideas and experiences. This helped build trust among them—a useful resource in subsequent regional initiatives in related sectors. An additional plus is that the initiative has set precedence in the region where skills and the use of research results are informing and arguing for policy change. Some benefits are better quoted, 'Country X has moved ahead, it is only us in Country Y who are still indecisive. We might be left behind if we are not careful'. Such comments were common during this initiative. Progress in one country is causing 'peer pressure' on another. No one wants to be left behind.

## **Progress in legislation**

As already mentioned two classes of agreements were identified: procedural and legal. Whereas members are working very hard to see the two types of agreements implemented, the legal type by nature usually take more time to implement because many steps and high-level institutions are involved, for example, parliamentary committees, cabinet committees, ministerial consultations. Despite these complex procedures, substantial work has been achieved.

In Kenya there have been several high-level consultations to discuss a bill that is attempting to rationalize three existing Acts into one (The Plant Protection Bill (Phytopsanitary) Cap 324, The Noxious Weeds Act Cap 325 and the Seeds and Plant Varieties Act Cap 326), and allow for accreditation of seed certification and testing services by other players. A draft national seed policy has been made to fast-track this procedure.

In Uganda the Plant Variety Protection Bill received a lot of attention in December 2002 and is now under discussion by a parliamentary select committee. The Seed Statute has gone through a parliamentary committee pending debate in parliament.

In Tanzania, two acts have been enacted since 2002 with significant input and direction from national stakeholders in this project. These are the PVP Act of 2003 and the Seed Act of 2004. The Plant Breeders' Rights Office was established in 2004 and a registrar appointed in 2005.

In Rwanda (in the Phase 2 group of countries) the Seed Act 2003 was promulgated and contains some important elements of the agreements emanating from the pilot-phase countries. Regional experts under the support of this project have been helping Rwanda to operationalize the Seed Act by developing workable and private-sector friendly rules and regulations.

## **Phase 2 of the Seed Initiative**

Once the pilot phase had gone full cycle with the policy-change cycle, the project was expanded in 2001 into the second-tier countries—Burundi, Eritrea, Ethiopia, Rwanda and Sudan, and the last tier of countries—Democratic Republic of Congo and Madagascar—were brought in in 2003.

The process began with a survey of the seed industry in each country conducted by a national resource person and supervised by a regional resource person to establish the state of the seed sector in the following areas: variety evaluation, release and registration; seed certification; phytosanitary issues; plant variety protection; and import and export procedures. The purpose was to document and analyse the state in each country, and the improvements and changes that were required to make the seed sector more efficient

nationally (rationalization) and regionally (harmonization).

The results of this analysis were then subjected sequentially to broad-based national consultative meetings comprising a wide range of stakeholders—public, private, civil society, NGOs, community-based organizations, farmers organizations. These were followed by national consultative forums of decision makers to facilitate dialogue leading to agreements at national level of areas that needed to be rationalized, and those that needed harmonization including the necessary steps to be taken to ensure that the agreements were implemented.

All second-tier countries have to a large extent embraced agreements of the pilot-phase countries. This provides promise that harmonization of the seed sector for the whole region will soon be a reality. There have been no objections by the second and third-tier countries on the initial agreements. However, implementation is not expected to be as fast as the acceptance of the agreements.

### **Third regional consultative meeting**

A regional consultative meeting comprising the pilot-, second- and third-tier countries was held in Arusha, Tanzania, from 28 to 29 June 2004. Its objectives were:

- to assess the achievements, constraints, opportunities and emerging challenges of the rationalization and harmonization of the seed policies, laws, rules and procedures in eastern Africa.
- to critically determine the way forward for the process with specific reference to thinking beyond rationalization and harmonization for an expanding and sustainable seed industry development.
- to receive and discuss the report of a study on the 'Feasibility of establishing an East African Seed Association' (later changed to Eastern Africa Seed Committee—EASCOM).
- to launch the East African Seed Association later agreed to be EASCOM and agree on its start-up activities (Box 6).

The meeting had 53 participants from the EAC, COMESA, Ministries of Agriculture from Kenya, Tanzania, Rwanda and Uganda, the directors general of national agricultural research systems in the region, representatives of the national seed trade associations of Kenya, Tanzania and Uganda, an official from OECD, an official from the Africa Seed Trade Association, donor representatives and key ASARECA and ECAPAPA officials.

### ***Outcomes of the regional consultative meeting***

Delegates at the meeting

- resolved to form EASCOM instead of an East African Seed Association to push forward the harmonization agenda (Box 6)
- defined the mission, mandate, functions and membership structure of EASCOM
- gave ASARECA/ECAPAPA the mandate to consult with relevant institutions in the

member countries to submit the four nominees to EASCOM.

## Lessons learned

Many lessons have been learned along the continuum of this initiative. Some are measurable while others are immeasurable; some were intended and others unintended. The lessons learned are captured under the following subheads:

*Project formulation:* Identify the problem clearly and buy-in early. The problem and need must be real. Identify objectives clearly and classify them temporally into immediate, intermediate and long term. This makes measurement and evaluation clear.

*Project implementation:* A pilot phase is important; it provides an opportunity to start small, learn the ropes, internalize strengths and circumvent weakness.

### *Consultative meetings*

- Make meetings a participatory process.
- Respect and practise transparency.
- Respect diversity of views and listen carefully to subsector participants.
- Aim to reach consensus not to debate.
- Thoroughly analyse issues before meetings.
- Have a core group of dedicated people to drive the process before the consultative meetings.

*Incentive or reward mechanism for key operators:* These can be non-monetary such as recognition. Alternatively, a token monetary appreciation can be provided.

*Fear of change and its consequences:* These can be at individual, institutional or country level, for example, fear of

- the country losing business
- the country being dependent
- individuals losing power and authority
- weaknesses or incompetences being exposed.

These fears can be overcome by ensuring that the client owns the process and the solution.

*The policy-change cycle:* The policy-change cycle has worked successfully as a key to policy-change process. It ensures consultation and participation and is science based and politically accommodating.

*Partnership:* This is the gateway to the body of knowledge and trade. Partner with national

and regional seed trade associations, pan-African seed trade associations, international seed institutes, academic institutions, etc.

*Bottom-up or top-down approach?* This will depend on the problem. Either one may work, but bottom-up works better.

*Need for an apex independent umbrella organization:* There are pros and cons of having a non-partisan umbrella organization. Revisit the objectives of having an umbrella organization and consider sustainability and the need for continuous buy-in and supportive mechanisms such as EAC and COMESA.

*Outsource expertise when necessary:* Developing links with academic and research institutions can integrate new research techniques and update own knowledge. This will also provide academicians with information on developments in the fields and insights gained from local practices. The goal is to incorporate new knowledge, expertise and techniques that improve or add value to one's objectives.

*Plan for monitoring and evaluation:* Most projects tend to invest more time and resources in planning and implementation but little in monitoring and evaluation (M&E). This hurts the implementers as well as the investors. If one fails to demonstrate deliverability, then there will be no funders for the project.

*Document your experiences along the way:* An efficient management information system including description of experiences and cases is a precondition for M&E, and preserves corporate memory.

*Impact:* Impact is not immediate and it takes time to see and feel it. Rationalizing and harmonizing is about change and change is caused by people. There are those who resist change even when it is positive change. Implementers and investors need patience for impact to be realized.

*Identify and include all key stakeholders:* Go beyond traditional ways of working where a central office dictates everything and focus on new forms of participation and inclusiveness. The idea is to mobilize and strengthen all institutions—private sector, national certification agencies and 'marginalized' institutions—to work together and reinforce each other. It means creating open fora for discussion and allowing debate.

*Recognize differences in levels of agreement:* Differences will appear at the technical (agreements based on science), political (consensus building) and legislative levels (guiding against backsliders).

*Backsliding on agreements:* Be ready to encounter and seek solutions to those who for some reasons decide to backslide on what has been agreed upon.

# The way forward

As we sit and look back at the events of the last five years, many gains have been made. We are in the process of fully harmonizing and rationalizing laws, procedures and regulations that will result in a seed industry that will benefit all stakeholders in eastern and central Africa. But what is the impact of all this?

- Do farmers now have more seed choices?
- Has the price of seed been reduced because more seed is available for the farmer to choose from?
- Has the trade in seed across boundaries increased?
- Are farmers using more certified seed than before?
- Has productivity at the farm level increased as a result of the project?
- Is food security increasing?
- Are farmers better off now than they were five years ago before the project began?

These are legitimate questions, but perhaps one could argue that for a project of this magnitude it might be premature to expect the kind of impact sought in these questions.

Suffice it to say that developments in critical areas such as shortening the period for the release of new varieties, reducing the number of quarantine pests from 33 to 3, harmonizing import and export procedures as well as field and laboratory standards, forming a Seed Regional Working Group and an Eastern Africa Seed Committee, all lead us to our destination. We have moved from the pilot-phase countries and the rest of the countries in the region have to a large extent wholly embraced the agreements of the pilot-phase countries. We are guided by our long-term objectives that include faster economic growth, increased food security, poverty reduction and improved quality of the environment.

## **Making use of existing opportunities**

Several frameworks are in place both in the eastern and central Africa region and in neighbouring regions that support the initiative to rationalize and harmonize seed policies. The Common Market for Eastern and Southern Africa (COMESA), the Southern African Development Community (SADC) and the host institution, the East African Community have all embraced the need to harmonize trade regulations and standards in all areas, seed being no exception. The political goodwill and a politically enabling environment is in place. Several member states have ratified the COMESA Free Trade Area, a step that supports the harmonization efforts. The recently concluded EA Customs Union will ease and allow trade in several areas. Trade policies per se need to be in tune with the harmonization efforts. We may succeed in harmonizing our rules and regulations, but if trade policies remain arcane, we will not be moving forward.

## Some challenges

Several challenges remain before we fully realize the long-term sustained benefits in our efforts to rationalize and harmonize seed policies and regulations.

- How and who will handle the informal seed sector, especially farmers who are the majority (about 90%) in the industry? Who will help them graduate to the formal sector? What steps can we put in place to address this gap?
- What is the possible effect of harmonization on the breadth of seed system development? Will the existence of economies of scale obtainable from a regional seed market encourage commercial interest in the multiplication and sale of seed for many open- and self-pollinated varieties?

There are likely to be lingering questions about market development for open- and self-pollinated seed crops of lesser interest to the commercial sector. In recent years, the market for seed of open- and self-pollinated crops has been strongest in relief programmes. These relief programmes have encouraged a few large companies to sell open-pollinated varieties of crops such as sorghum, pearl millet, groundnut and cowpeas that are common in relief programmes. What are the implications of these developments on the harmonization efforts?

Regional discussions to regulate harmonization have not debated the advantages and disadvantages of genetically modified organisms (GMOs). This debate should be factored in in future discussions and a position on GMOs should be clearly defined in the harmonization process. In particular, the issue of isolation distances for GMO-approved varieties needs to be addressed.

Organizing stakeholders in the seed industry to understand and implement these rationalized and harmonized procedures all at a reasonable pace is a major task. We need to go beyond East Africa when dealing with phytosanitary issues in harmonization. Harmonizing of quarantine pests within East Africa was easy, but how do we handle pests coming from outside the region? ASARECA/ECAPAPA needs to come to a common position on this.

## Conclusion

There is no doubt that the eastern Africa region has made remarkable progress in rationalizing and harmonizing seed policies and regulations. However, translating agreements into practice takes time particularly with the legislative type of changes. It is now clear as we continue with the process that only a small fraction, probably 10%, of the seed sector has been touched by these reforms.

Linking these efforts with the international seed system as well as responding to questions



on how to cope with and internalize emerging issues, such as GMOs, in the seed system remains a big challenge.

But there is light at the end of the tunnel. There is a great political will, an enabling political environment and human and financial support from individuals, organizations and associations, from government and donors, and from regional blocs such as EAC, COMESA and SADC. The journey of a thousand miles starts with one step. We have moved several miles as this monograph has documented.

## Glossary

**accreditation** The process where the national certification agency (NCA) authorizes an entity (private or public enterprise or person) to undertake seed certification or seed testing services, which are otherwise the responsibility of the NCA.

**breeders' rights** Intellectual property rights granted to breeders as innovators of new plant varieties to enable them to recoup investment in variety breeding.

**compulsory certification** Applies to a group of crops selected as economically vital nationally and whose seed must undergo full certification before being offered for sale.

**essentially derived varieties** A variety that has been produced using an initial variety through repeated back-crossing until the new (derived) variety has similar essential characteristics as the initial variety.

**first, second, third, fourth, etc, generation** Refers to inspection status of seed crops through the multiplication cycle. Breeders' seed gives rise to basic seed whose progeny is certified seed. Depending on the crop, certified seed may be classified as C<sub>1</sub>, which yields C<sub>2</sub>, which in turn yields C<sub>3</sub>, etc.

**intellectual property rights (IPR)** Exclusive rights granted to innovators to exploit their innovations to recoup investment into research. IPR may be granted as breeders' rights to cover plants, or as patents to cover industrial designs or innovations. In some countries, patents may also be granted varieties containing selected genes such as genetically modified crops.

**interagency certification** A system where field certification is undertaken in one country by the NCA and bulk seed is moved to another country to complete the certification process.

**harmonization** A process where regional economic integration blocs agree to standardize rules, procedures, regulations, standards and even laws that govern seed trade.

**national certification** The national designated authority responsible for under-agency (NCA) taking seed-certification services.

**national variety list** A list of varieties officially released for commercial production in any one country. It is also called a National Official Catalogue.

**non-tariff barriers** These are laws, regulations, administrative and technical requirements other than tariffs imposed by a partner state whose effect is to impede trade.

**open-pollinated crop** Crops whose mode of reproduction involves transfer of pollen either within the same plant or transfer of pollen from other plants of the same or very closely related species. It involves out-crossing.

**phytosanitary certificate** A phytosanitary certificate is issued by the exporting country to confirm that the plant material was inspected and found free from pests/diseases of a quarantine nature in the importing country. It is a key requirement for trade in plant material (including seed) across international borders. Regulations governing issue of phytosanitary certificate are usually international but may be national.

**plant variety protection** These are rights given to a breeder to authorize sale of a variety she/he has bred. The grant of protection is given by the government for a limited period (usually 15–25 years) during which the breeder is expected to have re-couped the investment in developing the variety protected. Only those varieties that are distinct (that is, novel), uniform and stable (that is, remain the same even after several cycles of reproduction) are eligible for protection.

**procedural vs. legal** A procedural agreement refers to an agreement that may be agreement effected by the minister in charge, while with a legal agreement the full legislative process is required before the agreement becomes operational.

**quarantine pest** A dangerous disease or pest which is found in one zone and not in another (including country) and whose movement is therefore

controlled ('quarantined').

**rationalization** Refers to a situation where laws, regulations, procedures and standards may be present in a country, but these are not well coordinated. Rationalizing these will enable these laws, regulations and procedures to be harmonized across countries.

**regional variety list** A list of crop varieties officially released for commercial production in any two of the three East African countries.

**seed certification** The process of ensuring that seed offered for sale meet the minimum regulatory standards. The standards checked include field and laboratory standards, processing, labelling and label information. The seed is usually given a 'seal' by the NCA.

**seed tag** An official label or mark by the NCA that the packaged seed has undergone the full certification process. It usually has set minimum information and has a unique colour for each seed class class.

**self-pollinated crop** A crop whose mode of propagation involves transferring pollen within flowers on the same plant. No out-crossing is involved.

**tariff** A customs duty imposed on imports and exports.

**variety evaluation, release and registration** The process of breeding new crop varieties, selecting the progeny for desirable characteristics and evaluating the selected materials under field or glass house or laboratory conditions to confirm that the selected materials contain the characters for which the cross was made and finally testing the best selected materials (or lines) under field conditions in what is called adaptability trials. The best performing materials are then put through a common evaluation trial (National Variety Performance Trial) before release. Only officially released varieties are registered or put into a national official catalogue (also called 'gazette').

**voluntary certification** This is where certification is requested by the applicant and usually involves testing for laboratory standards only.

### **Box 1. Partners, partners, all the way**

Partnership building is a core value at ECAPAPA. Partnerships increase the ability to interact with

other organizations for mutual benefit. Workshops held in each country brought together different stakeholders in the seed industry allowing for participation and consultation. This pool of expertise—breeders, pathologists, seed technologists, lawyers, traders, customs officials, government technocrats, politicians—continuously provided specialist advice, experiences and information, comments and support as needed during the entire process and all felt they were in control of the change process. Partnerships also promote efficient service delivery as organizational structures are decentralized in the process, empowering actors in the periphery who would otherwise be ‘spectators’. During Phase 1 of the project, close to 500 stakeholders in the seed industry in the three countries participated directly or indirectly in the various workshops convened. All policy changes arising from this process are the consensus and collective vision of the seed industries in the three East African countries.

As an example, during the second regional consultative workshop, there were 46 participants from the following organizations:

### **Kenya**

Department of Crop Science, University of Nairobi  
Kenya Plant Health Inspectorate Services (KEPHIS)  
Ministry of Agriculture and Rural Development  
Seed Trade Association of Kenya (STAK)  
Relay Consultants  
USAID Kenya mission

### **Tanzania**

Department of Crop Science, Sokoine University of Agriculture  
Department for Research and Development  
Ministry of Agriculture and Cooperatives  
Ministry of Livestock and Water Development  
Monsanto (T) Ltd.  
Tanganyika Farmers' Association  
Tanzania Official Seed Certification Agency  
Tanzania Seed (TANSEED)  
Tanzania Seed Traders Association  
Tropical Pesticides Research Institute  
Selian Agricultural Research Institute

### **Uganda**

Ministry of Agriculture, Animal Industry and Fisheries  
Ministry of Justice and Constitutional Affairs  
National Agricultural Research Organization  
Uganda Oil Seed Producers and Processors' Association  
Uganda Seed Project

### **International agricultural research institutes**

East and Central Africa Bean Research Network (ECABREN), Arusha

### **Donors, external advisers and resource persons**

East African Community  
ECAPAPA  
ASARECA  
Iowa State University (Iowa Crop Improvement Association and Seed Science Centre)  
Special Programme for African Agricultural Research (SPAAR), The World Bank  
US Department of Agriculture

USAID-ESA  
Zimbabwe Seed Trade Association

**Observer**  
Ethiopia Agriculture Research Organization

### **Box 2. The East African Community**

The East African Community was revived in 2001. The Treaty for the Establishment of the Community recognizes the important role agriculture plays in the economies of the three countries. Chapter 18 of this Treaty is wholly devoted to developing and promoting agricultural production. Article 106 of Chapter 18 specifically deals with seed multiplication and distribution and provides that partner states will

- o strengthen cooperation in developing and producing quality seed through research
- o support cooperation by establishing gene banks
- o enhance capacity in seed technology
- o initiate and maintain strategic seed reserves
- o harmonize quarantine policies, legislation and regulations to ease trade in seed, and
- o create an enabling environment for private sector seed multiplication and distribution.

The Common Agriculture and Rural Development Policy and the EAC Agriculture and Rural Development Strategy were adopted by the Council of Ministers at their 7<sup>th</sup> meeting in January 2004. These two documents are awaiting legal processing by the three attorneys general before they are released for use in the Community. The Treaty has also prepared the EAC Private Sector Development Strategy but it is yet to be adopted by the Council. This strategy aims at strengthening and promoting the role of the private sector as an effective force for the accelerated growth of the respective national economies.

One of the tasks of EAC's Agriculture and Food Security Committee will be to maintain a regional seed variety catalogue, which will include all variety lines tested each year, including those failing in the national variety performance trials. Eligibility for listing in the catalogue will depend on a variety being tested, accepted and released in at least two member countries and being in commercial production in these two countries.

### **Box 3. The Seed Trade Association of Kenya**

The Seed Trade Association of Kenya (STAK), was established in 1982 by seed merchants. Today membership includes plant breeders represented by the Plant Breeders' Association of Kenya, local universities, agrochemical firms and other parties involved in the seed industry in Kenya. Members can be either ordinary members with voting rights or associate members without voting rights.

STAK's vision is to facilitate the creation of a self-regulating seed industry in Kenya. Its objectives are to:

- o represent the interests of the seed industry in Kenya regionally and internationally
- o create a forum where stakeholders in the seed industry can share ideas and interact with government, regulatory bodies and other players in the agricultural sector
- o increase the use of improved and certified seed by conforming to national and international standards
- o act as a source of seed information for members and interested parties nationally, regionally and

internationally

- o promote activities that facilitate the harmonization of seed policies and regulations in Kenya, in eastern Africa and internationally.

By virtue of its long history on seed, Kenya has had a reasonably stronger seed industry operating under the Seeds and Plant Varieties Act of 1972 to govern production, processing and marketing of seed. In 1996, the Kenya Plant Health Inspectorate Services was established. It is now the regulating and national certification agency (NCA) responsible for the official seed-testing services. It also has responsibility for plant variety protection and phytosanitary services. This arrangement is repeated in Tanzania and Uganda (at somewhat lower levels of sophistication as well as human resources) where there are quasi-independent bodies to regulate research and the activities of the national seed association. The NCA in each country will also maintain the national variety catalogue to disseminate information on availability of certified seeds of new registered cultivars to farmers, traders, agro-stockists, extension officers, NGOs and other interested parties.

### **Functions**

The functions of STAK continue to evolve. The Strategy for Revitalizing Agriculture launched by the President of Kenya in March 2004, emphasizes a review of the seed policy framework and legal instruments to create an enabling environment to encourage private sector investment in research, breeding, production and marketing to disseminate new technologies to farmers, and in seed certification and testing.

STAK is a key player in agitating for legal and regulatory reforms in Kenya to accommodate the key agreements arrived at during the harmonization process. To this end, STAK has actively participated in the development of Kenya's national seed policy document, which will be used to fast-track the review and repeal of restrictive clauses to smooth seed trade and consolidate the relevant sections of the laws governing seed business in accordance with the presidential strategy for economic development.

When the seed harmonization project took off in 1999, STAK was the only seed association in the pilot-phase countries with a strong presence in the region and was asked to host the secretariat for the S-RWG. STAK's executive officer is the secretary of the S-RWG and currently also the secretary of the Eastern Africa Seed Committee.

STAK is an active member of the African Seed Trade Association and the International Seed Federation (ISF). STAK is represented on the board of ISF and its executive officer is a member of the Intellectual Property Committee representing Africa.

### **Box 4. The Seed Regional Working Group**

The Seed Regional Working Group (S-RWG) was conceived by ASARECA/ECAPAPA during the second regional meeting in Arusha, Tanzania. It held its first meeting in June 2001 and a secretariat was established and a chair, vice chair and secretary elected. The secretariat was housed at the Seed Trade Association of Kenya office in Nairobi, Kenya, from 2001 to 2004. The S-RWG was made up of four representatives from the three EAC countries in the following areas:

- o variety evaluation, release and registration including PVP
- o national seed certification authority
- o phytosanitary services and
- o private sector (through the national seed trade associations from each of the three countries).

The S-RWG was mandated to coordinate implementation of the agreements arrived at during the two regional meetings on harmonizing the seed sector, and to handle and advise on emerging issues in the seed sector in the region. In February 2003, the S-WRG was accepted as a sub-committee of the East African Community's Committee on Agriculture and Food Security. This is a significant milestone because members of this committee are key in the successful implementation of agreements in member countries.

The working group's tasks to date have included:

- o developing procedures for accrediting institutions interested in undertaking seed certification services. Previously only national certification authorities could perform this task shutting out competent individuals and institutions that were capable of performing the task, leading to bureaucratic delays. (Accrediting certification and seed testing services is a common practice in international seed trade.)
- o developing a design for a common seed tag to facilitate faster movement of seed across borders
- o developing protocols for interagency certification scheme where part of the certification may be done in one country and completed in another. Interagency certification facilitates movement of seed in bulk across borders for final processing and marketing in the other country
- o supporting the informal seed sector to 'graduate' to the formal seed sector
- o working closely with Ministries of Agriculture in Kenya, Tanzania and Uganda to expedite implementation of agreements that will harmonize the seed sector in the region.

The S-RWG has also facilitated production of the national variety lists for Kenya, Tanzania and Uganda, and has compiled a regional variety list for 2004. The regional variety lists includes common bean (2 varieties), climbing bean (2 varieties), maize (20 varieties), pigeon pea (2 varieties) sorghum (2 varieties) and sunflower (1 variety).

## **Box 5. International seed institutions**

### **The International Plant Protection Convention**

Seeds can be an efficient means of introducing plant diseases into geographical regions by transmitting seed-borne plant pathogens. Numerous examples exist of imported infected seeds that have had serious economic consequences. International quarantine controls are important to prohibit introduction of economically harmful plant disease through seeds. The International Plant Protection Convention (IPPC) has formulated a standard phytosanitary certificate governing movement of seed. This is the most commonly used mechanism and is recognized by most countries throughout the world. The certificate must accompany the seed shipment and should state that the seed lot is free of injurious pests and diseases. The exporting country is responsible for providing this assurance. The pilot-phase countries agreed to embrace the IPPC Phytosanitary Certificate model, that is currently used in varying degrees by all three countries.

Other organizations are involved in efforts to provide a worldwide seed health system that will give effective protection against the international spread of seed-borne diseases.

- o The International Seed Testing Association (ISTA) provides standard rules for laboratory seed testing to ensure purity, germination and other seed standards are actually met
- o The Organization for Economic Cooperation and Development (OECD) provides field inspection schemes setting minimum certification standards for various crops
- o The International Seed Federation (ISF) is a trade association that gives industry guidelines on matters relating to international seed regulations.

### **Electronic database on seed-borne diseases**

Phytopathological problems cannot be resolved without a major infusion of scientific information and strategy. The Seed Science Centre at Iowa State University, the Danish Institute for Seed Pathology and CAB International have collaborated since 1994 and have constructed an electronic database that contains comprehensive datasheets for 300 diseases of major world crops.

### **Food and Agriculture Organization of the United Nations**

Seed health organizations have mainly focused their efforts on developing standardized tests. As more information gets collated, this has provided the possibility of developing rapid and accurate pest risk assessments that can determine the merits for phytopathological regulations for seed-borne pathogens. In 1996, the Food and Agriculture Organization of the United Nations (FAO) developed guidelines for pest risk analysis. Together with the database on seed-borne diseases, these two internationally accepted systems go a long way to removing in-country bias when phytopathological regulations are evaluated. The pilot countries agreed to adopt regionally the FAO procedure for pest risk analysis.

### **The International Union for the Protection of New Varieties of Plants**

To protect intellectual property rights, the three East African countries will develop their own PVP framework (though Kenya already has an effective PVP law conforming to the UPOV 1978 Convention) using as references the UPOV 1978 Convention, the African Union's Model Law, and national laws and drafts. The purpose is to protect new plant varieties but the scope will be restricted to cover plant breeders' rights. Farmer and community rights will be dealt with under other legislation, but farmers' varieties will be indexed to prevent biopiracy.

### **Organization for Economic Cooperation and Development schemes/ISTA rules**

In East Africa, field and laboratory standards for specific crops have been developed using standards comparable with the Association of Official Seed Certifying Agencies (AOSCA), ISTA and the OECD. OECD has several seed schemes and works in cooperation with several international institutions. OECD authorizes the use of labels and certificates for seed produced and processed for international trade. These labels are internationally recognized 'passports' for seed exports and imports. Participating countries agree on harmonized procedures for production and control throughout the seed multiplication chain. Membership to OECD entitles the country to

#### **Box 5 contd.**

- o use internationally recognized seed labels and certificates
- o develop seed production with other countries or companies
- o participate in the elaboration of international rules for seed certification
- o maintain national certification at a global level of efficiency and performance
- o develop collaboration between public and private sectors (for example, in accreditation)
- o benefit from information exchange with other national certification bodies.

### **Box 6. The Eastern Africa Seed Committee**

Beginning July 2003, discussions began on the need to expand the S-RWG, broadening its base to include members from the other seven countries, and broadening its mandate to implement the rationalization and harmonization agreements. In June 2004 the S-RWG was officially transformed into the Eastern Africa Seed Committee (EASCOM) covering all the 10 ASARECA countries and with a potential membership of 40, that is, four members from each country representing the following sectors:

- o Ministry of Agriculture



- o plant breeders' association
- o national certification authority
- o national seed trade association

Dr Nyamajeje Weggoro, sectoral economist at the East African Community, launched EASCOM during the S-RWG meeting of June 2004. EASCOM met for the first time in November 2004 in Kigali, Rwanda, and elected a new executive committee with new terms of service to spearhead operationalization of agreements under the harmonization project.

## **Financial and in-kind support**

The Seed Initiative is largely indebted to USAID-REDSO-ESA for its financial support as well as to CTA (the Technical Centre for Agricultural and Rural Cooperation), who have also generously supported some of the meetings as well as publishing and disseminating proceedings emanating from these meetings.

Table 1. Achievements and agreements on the ASARECA project in harmonizing seed policies and regulations in East Africa

Issues

Before  
ASARECA seed  
project

Results and  
agreements of the  
project

Implications of  
agreements and  
decisions to the  
seed sector

Status a

Implementation  
Institution(s)      Other  
responsible          remarks

## **1. Variety evaluation, release and registration**

<p>a. Entering the national performance trials (NPTs)</p>	<p>Breeders in the three countries entered materials for evaluation at national level before official approval for listing in the seed certification schedule and commercial seed producers at different stages of the variety development cycle, at advanced yield trials for Tanzania, and at national performance trials for Kenya</p>	<p>For both locally produced and introduced varieties, applicant will enter materials intended for release for at least one main season. These will regionally be known as variety performance trials (VPTs). Sufficient data from previous stages (advanced yield trial) will be needed.</p>	<p>Seed companies can do advanced multilocal testing in relevant ecological zones anywhere in East Africa and follow up entering them in VPTs. This will attract more seed companies to the region because of expanded market.</p>	<p>Procedural</p>	<p>NCAs</p>	<p>Implementation is immediate.</p>
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b. Variety testing procedures for release

Different in each country.

Variety testing procedures to be standardized.

This will facilitate reciprocal regional recognition of variety testing data.

Procedural

NCA's

Standards for some crops were not completed and will be done by a selected working group.

c. Number of seasons for release of varieties after they enter VPTs	In all countries the number was 3 seasons; for Tanzania and Kenya this means 3 years.	One-season performance testing for both local and foreign varieties is combined with sufficient data on previous testing from similar agro-ecological zones.	The time for new varieties to be available to the farmer has been reduced from 3 years to 1 year, implying more readily available new planting material.	Procedural	NCAs	Implementation is immediate.
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d. On-farm trials

The emphasis varied across countries, being 'mandatory' for Uganda, 'required' for variety release in Tanzania, and 'optional' for Kenya.

On-farm trials recommended but should be done concurrently with VPT so that trials do not claim extra time on release of varieties.

This consensus is quite positive because when on-farm trials were done independently, it implied at least 1 year more of delay in availability of varieties. The current consensus ensures more rapid availability of varieties, by at least one year.

Procedural

NCA's

On-farm trials may also help provide information to farmers about performance before formal release.

Issues

Before  
ASARECA seed  
project

Results and  
agreements of the  
project

Implications of  
agreements and  
decisions to the  
seed sector

Status a

Implementation  
Institution(s)      Other  
responsible          remarks



e. Private seed companies and breeders participating in national evaluation trials with NCA supervision for release purpose	The practice varied across the three countries from non-existent in Uganda to 'in the process of being considered' in Kenya. In Tanzania it was already in practice.	Certifying agency will bear the overall responsibility but can accredit suitable institutions, companies or seed trade association, or individuals to carry out VPTs.	Increased acceptance of private sector role in seed evaluation and release. Because public research institutions are usually underfunded, the accreditation will help reduce the funding burden and expedite the process of availability.	Procedural	NCA and Ministry of Agriculture	Under this agreement universities and related institutions can participate and increase the number involved in seed production.
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f. Variety release committees	These committees varied in number, function, composition of membership, and frequency of meetings across the three countries.	Agreed that the certifying agency with some technical assistance from the applicant, the national seed trade association and an extension specialist will monitor and consider NPT/VPT results for consideration by the National Variety Release Committee (NVRC), which is the only committee. Composition of members to the NVRC is also standardized across the countries.	Speed up the release of varieties. Reduce cost of meetings. Increase transparency in participation. Form more technical committees. Increase participation of private sector. All these factors will make the committee more effective.	Procedural	NCAs and Ministry of Agriculture	This will help harmonize approaches to deliberations on new varieties.
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g. Common variety list for the region

This did not exist.

It was agreed to establish a regional variety list/catalogue. Protocols were defined. This will provide information on available new varieties in the region.

Increased availability of information of new varieties.

Procedural

NCA and Ministry of Agriculture

Content and organization of the catalogue were also discussed.

## 2. Seed certification

a. Compulsory and voluntary certification	Differences existed in crops multiplied under voluntary and compulsory certification. This to a large extent disadvantaged farmers in seed availability.	The workshops agreed on which crops will be under compulsory and which under voluntary certification: <i>Compulsory</i> — hybrid maize, open-pollinated maize, sweet corn, common dry bean, snap bean, sorghum, wheat, rice, sunflower, Irish potato and any other crop approved by regional certifying agencies; <i>voluntary</i> — tomato, carrot, cassava, pigeon pea, cowpea, similar crops.	Commonalities on what crops are in which category will hasten seed movement and availability across borders. Doubts about seed in the voluntary class in one country and compulsory class in another are removed.	Procedural and legal	NCAs and Ministry of Agriculture	Countries are still in favor of both compulsory and voluntary certification.
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Issues

Before  
ASARECA seed  
project

Results and  
agreements of the  
project

Implications of  
agreements and  
decisions to the  
seed sector

Status a

Implementation  
Institution(s)      Other  
responsible          remarks

b. Field and laboratory standards

These were different in the three countries, making acceptance by outsiders and regional trade difficult.

The workshop harmonized field and laboratory standards for hybrid maize, sweet corn, open-pollinated maize, common bean, snap bean, rice, wheat.

Having rules defined increases transparency, reduces the time seed will take from one point to the next and helps increase the number of entrants into the seed industry, resulting in increased seed availability.

Procedural and legal

NCA and Ministry of Agriculture

The proposed working group will set standards for the crops whose standards were not set.

c. Seed classes

Seed classes were different in all countries, causing considerable confusion in germplasm exchange and trade in seed.

Four seed classes were accepted across the three countries— breeders, basic, certified (first and second generations) and standard. The workshops agreed on laboratory standards for each seed class for 10 crops under compulsory certification.

The reduction from 8 to 4 seed classes helped make the seed language common and easy. This will facilitate faster movement of seed for processing and for trading and will improve seed availability across the countries.

Procedural

NCA's

Standard seed had 4 different names, which caused confusion as seed moved across borders.



d. Accreditation to certify seed	Only Kenya and Tanzania had a provision for accreditation of certification to institutions and seed companies.	The workshop agreed on accrediting institutions, seed companies and individuals to carry out seed certification on behalf of national certifying agencies. The accreditation procedures were also agreed upon.	This will lead to more efficient use of human resources available in the seed sector. It will also accelerate the process of certification, making seed available faster than otherwise.	Procedural	NCAs	—
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e. Common seed tag across the region

This did not exist, which led to numerous questions and delays as seed moved across borders.

The workshops agreed on a common seed tag and will design color and content for every seed class.

This will facilitate faster movement of bulk seed and also seed for trading. With this 'common language', seed material will take less time to reach the intended destination.

Procedural

NCAS

—

f. Interagency certification	This did not exist.	The three countries agreed to establish an interagency certification scheme. This will facilitate movement of bulk seed across borders for final processing and certification by the cooperating certification agency.	This will allow seed companies in the three countries to move freely across borders, make use of countries in production of seed and move it in bulk across boundaries for further processing. In effect it will result in more efficient use of land and human resources and facilitate increased availability of seed to farmers.	Procedural and legal	NCAs	The protocols for interagency certification were established as well as documentation necessary for bulk transfer of seed for interagency accreditation.
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Issues

Before  
ASARECA seed  
project

Results and  
agreements of the  
project

Implications of  
agreements and  
decisions to the  
seed sector

Status a

Implementation  
Institution(s)      Other  
responsible          remarks

g. Informal seed sector

The three countries had different ratings, confidence, and understanding of roles of the informal seed sector.

This informal seed sector was accepted as an integral part of the wide seed sector. It has a big role in ensuring seed availability and seed choice to farmers. It was agreed it should continue to be assisted by the formal sector so that it can eventually graduate into the formal.

The built-in confidence of the role of the informal seed sector will spur availability of clean seed material to farmers.

Procedural

NCA's,  
Ministry of Agriculture,  
NGOs

The working group in collaboration with ASARECA and other partners will design strategies to assist this sector.

### **3. Phytosanitary issues**

a. Basis for issuing permits

Kenya and Uganda are still using the outdated 7th Non-Legal Draft of the Plant Protection Order of 1972 proposed by the East African Technical Committee.

It was agreed to use the revised FAO pest risk analysis procedures currently in use in Tanzania.

Seed flow across borders will be faster, increasing availability of seed, which would otherwise have been restricted on non-scientific grounds.

Procedural

NCA and phytosanitary institutions

A provision will be made for periodic updating of restricted and non-restricted pests.

b.  
Membership  
in the  
International  
Plant  
Protection  
Convention  
(IPPC)

Only Kenya is  
signatory to  
IPPC.

Tanzania and  
Uganda agreed to  
pursue  
membership in  
IPPC.

This will increase  
adoption of  
international  
practices in plant  
protection.

Procedural

NCA's and  
phytosanitary  
institutions

Harmonization  
will easily be  
achieved since  
Tanzania and  
Uganda already  
follow IPPC  
guidelines.



c. Quarantine pests	At the beginning of the project there were 33 quarantine pests within EAC for 10 selected crops.	Use of CABI database reduced the quarantine pests to 3 for seed of 10 selected crops.	Faster seed flow, more seed material flows, more seed choices to farmers.	Procedural	NCA and phytosanitary institutions	The working group will proceed to verify the remaining 3 quarantine pests.
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d. Common list of mid-to high-risk quarantine pests in East Africa

A common list did not exist. Each country had its own.

A common list was established based on scientific evidence.

Faster seed flows and more seed choices.

Procedural

NCA's and phytosanitary institutions

—

e. Pest information system in East Africa

Initially, it was voluntary and erratic—not systematized.

Workshops established a minimum pest information system based on literature, capacity in information systems, training, compulsory notification of outbreaks, and establishment and publication of pest status in the region.

Cost-effectiveness achieved in regional operations will avoid duplication of efforts across the region

Procedural

NCA and phytosanitary institutions

—

Issues

Before  
ASARECA seed  
project

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project

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agreements and  
decisions to the  
seed sector

Status a

Implementation  
Institution(s)      Other  
responsible          remarks

f. Minimum facilities at high-risk entry points

Country facilities varied.

The workshop agreed to establish minimum facilities at high-risk entry points.

Increased confidence and trust among scientists and the broader seed sector in the seed material traded. They will have the confidence that the seed material has been subjected to acceptable minimum checks. This will facilitate faster inflow and outflow of seeds, resulting in increased seed trade.

Procedural

NCA and phytosanitary institutions

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g. Public awareness of phytosanitary issues

Countries used different methods.

The workshop agreed to use pamphlets, leaflets, posters, and farmer training along the borders, sensitize customs and immigration officers, and make in-flight announcements.

This will minimize policing, pest entry and spread within the region.

Procedural

NCA and phytosanitary institutions

—

h. Mandates and powers of phytosanitary inspectors

There are differences in mandates for staff overseeing the same issues across the borders.

The delegates agreed to empower entry and post entry staff to inspect and quarantine.

Harmonized functions and powers will increase efficiency in the movement of seed. They will also help traders know what to expect as they cross borders.

Procedural

NCA and phytosanitary institutions

The workshop agreed that efforts should be made to gradually place staff with similar qualifications at these points in the three countries.

#### **4. Seed import and export documentation and procedures**



a. Import and export documents	The number, type and source of the documentation were different in all three countries.	Delegates agreed to standardize import and export documentation and procedures that will require plant import permit, quality certificate from source, quality certificate and customs clearance	Standardized procedures will increase the rate of seed movement, saving considerable time.	Procedural	NCAs, plant health and quarantine institutions	Although the process will begin immediately, implementing it will take a while because forms will have to be reconstituted and offices reorganized.
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Issues

Before  
ASARECA seed  
project

Results and  
agreements of the  
project

Implications of  
agreements and  
decisions to the  
seed sector

Status a

Implementation  
Institution(s)      Other  
responsible          remarks

b. Import tariffs and procedures

The East African countries differed in the type of tariffs, rates, and in the type of crop seeds tariffed.

Delegates agreed to go for a uniform tariff system and procedures in accordance with the EAC Treaty article 75:1(b) and 1(c).

Uniformity in procedures will facilitate faster movement of seed across borders.

Legal

Ministries of Agriculture, Trade and Finance

Import and export procedures and requirements have become trade barriers. In some cases, the procedures are lengthy and the requirements are difficult to meet, making seed movement arduous.

## 5. Plant variety protection (PVP)

a. Plant variety protection

Kenya has legislation on PVP. Tanzania and Uganda do not although steps towards it are in place in both countries. However, TRIPS (Trade-Related Intellectual Property Rights), to which all the three countries are signatories, requires that each country establish a PVP system by 2005.

The delegates agreed on a number of issues in PVP.

- 1) Establish national PVP laws to promote crop improvement by both private and public breeders and institutions.
- 2) Each country should develop a suitable system of PVP based on cross-referencing of international and regional PVP model law.
- 3) Establish a regional plant breeders' rights committee to work under EAC.
- 4) Establish PVP issues under the EAC's Intellectual Property Rights office.
- 5) Recognize and provide for essentially derived varieties concept in the national PVP laws.

Establishing PVP laws will promote crop improvement by both private and public breeders and institutions because of the built-in reward system.

The implementation of 1), 2) and 5) is legal, of 3) and 4) is procedural.

NCA's, Ministries of Agriculture, Trade and Finance

The NCAs and the Ministry of Agriculture will handle the procedural issues. Legal issues are to be handled by the Ministry of Agriculture in collaboration with the legal instruments in and outside the ministry. The working group to be established will steer the process.

NCA – national certifying authority

a The agreements are in two categories

‘Procedural’ are those that do not req

‘Legal’ are those that will require change in the legislation, usually in parliament.

## **Annex 1. Terms of reference for national resource persons**

### **Study implementation**

***Stage 1. Orientation workshop to be held in Nairobi for four days beginning 30 August to 3 September 1999***

#### **OBJECTIVES**

- a. Introduce the background and objectives of the study to the national resource persons.
- b. Appraise study team with the seed industry in eastern Africa and constraints to its expansion and development.
- c. Discuss, review and agree on information to be collected and its compilation, analysis and identify laws, regulations, procedures and other factors which impede or delay the movement of seed between the three countries.
- d. Receive discuss and agree on the planned schedule of activities for the study, and the roles of the national resource persons at each stage.

**Timing:** 30 August to 3 September 1999

#### ***Stage II. National study***

Specific terms of reference for national study

- a. Carry out a thorough review of published and semi-published literature related to seed policies and regulations in eastern and southern Africa.
- b. For Kenya in particular, this should include policies, regulations and procedures on:
  - i. phytosanitary regulations
  - ii. plant breeding and variety selection and registration
  - iii. procedures for variety testing and registration and release
  - iv. procedures and regulations on source seed production, for example, from breeder seed to pre-basic and basic seed stage
  - v. seed multiplication procedures, regulations, institutions and capacity
  - vi. seed standards and other quality control measures as well as description of regulations

and institutions enforcing them.

- vii. Seed conditioning and storage procedures including grading, packaging and capacity in the country
- c. Each national resource person is required, in addition to being familiar with the national policies/regulations/procedures for Kenya, to be thoroughly familiar with the policies/regulations/procedures of the other two East African countries
- d Undertake analysis of the information in a., b. and c. above and hold discussions with major stakeholders/contractor in the seed industry and related sectors. This analysis and synthesis should unveil bottlenecks which:
  - i. impede seed industry development
  - ii. limit participation of other players in investing in the seed industry, for example, the private sector
  - iii. restrict movement of seed and germplasm to and from neighbouring countries, the tariff and non-tariff barriers
  - iv. impede harmonization of seed polices, regulations and laws in the eastern Africa region

Discussions should involve key players: breeders, quarantine officers, foundation seed farm managers, plant protection officials, private sector seed companies, seed certification officials, patent and other legal officers, other policy makers and scientists from international agricultural research centres.

- e. Review the size and major players in the seed industry in Kenya including:
  - i. quantities and types of seed imported and old over the past 10 years and major companies (private, public) involved
  - ii. quantities and types of seed produced locally from where and by whom
  - iii. quantities and types of seed exported, to where and by whom
  - iv. potential demand in the local seed market and the amount of it which can be met locally through importation
  - v. identify the types of seeds which Kenya has a comparative advantage producing for the entire region, and facilities available for such an undertaking
  - vi. identify seed production costs and prices paid by farmers
  - vii. identify other tariff and non-tariff barriers to seed movement
- f. Identify key players who should be invited to the national workshop
- g. Prepare a comprehensive report with the information collected in a.–d. above

**Timing:** to commence immediately after completion of orientation workshop.

### ***Stage III. One-day national consultative workshop in Kenya***

**Objective:** to present the report on consultations carried out before 1 November 1999.

\*Workshop recommendation will form the discussion document for the national workshop.

**Timing:** to be held on 2 November 1999

**Attendance**

- a. The national resource person shall invite representatives from each of the following stakeholder groups
  - i. seed certification and registration
  - ii. public seed company general managers
  - iii. private seed companies
  - iv. plant quarantine services
  - v. plant breeders
- b. ASARECA and ECAPAPA officials
- c. One member of the Committee of Directors from the three countries: Kenya, Tanzania and Uganda
- d. A representative from the East African Cooperation Secretariat

A total of 25 participants from Kenya

\*Payment of participants' per diem, accommodation and transport costs will be borne by the ASARECA Secretariat. The national resource person shall prepare a budget for this workshop.

***Stage IV. National workshop to be held in Kenya***

**Facilitation:** The resource person (contractor) shall plan and organize this workshop.

**Objective:** Reach a consensus on major steps that need to be taken to harmonize the seed laws, regulations and procedures in the East African countries. Each resource person (contractor) shall prepare a first hand experience/feeling of any contentious issues.

**Timing:** 25 –26 January 2000, at Mt Kenya Safari Lodge

National resource persons will coordinate on holding of these workshops to ensure that they are staggered in such a manner that other national resource persons and ASARECA/ECAPAPA officials attend all the three national workshops. The last national workshop shall be held in Uganda before 2 February 2000 and thereafter prepare for the meeting with Dr Joe Cortes.

**Attendance:** Fifteen people in total to include among others all three resource persons and at least ten (10) selected senior officials from the following main stakeholders: plant breeders and managers, seed certification and registration officials, legal draftsmen, patent officials, bureau of standards officials, seed producers, seed merchants, representatives of respective farmers' organizations and representatives from international research centres in the country.



\*Persons to be invited shall be decided upon after consultation with ASARECA, ECAPAPA and respective members of the Committee of Directors of the country. Payment of per diem, accommodation and transport costs will be made by ASARECA Secretariat.

***Stage V. Regional workshop—one in Tanzania and the other in Uganda***

**Objective:** Review recommendations of the three national workshops and make recommendation on steps, procedures and activities to be take in each country to harmonize seed laws, regulations and polices with the view of establishing and East African Seed Industry Network (EASIN).

**Attendance:** Six sponsored participants from each country will attend each of the workshops

**Training:** The two workshops will be held in March and April 2000. Each will run for a period of 3–5 days with three days for harmonizable regulations and one for policy issues/adoption of recommendations.