

Strengthening the Seed Quality Control System in Ethiopia

Exploring opportunities



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Objectives study

- Identify strengths and weaknesses of the seed quality control system
- Identify experiences with innovative ways to improve the performance of the certification system
- Formulate recommendations for improvement of the seed quality control system, building on on-going initiatives

Method study

- The rapid assessment focussed on maize, wheat and teff
- Secondary data collection in Amhara, Oromia and SNNPR
- Stakeholder interviews at federal and regional and district level (Oromia, Amhara)
 - Ministry and bureaus of agriculture
 - Private and public seed enterprises and seed producer cooperatives
 - Regulatory authorities at federal, regional and laboratory / branch office
 - Seed clients such as multi-purpose cooperatives

General observations

- Seed certification seems to be functioning relatively well
 - This is a commendable achievement by the regional inspection services
 - Resources are limited
 - Seed sector is changing fast
- Seed quality has improved notably over the last 3-5 years according to stakeholders
- Regional control bodies have developed their quality control services
- The regional control bodies are increasing the number of centres / branch offices
- In spite of this, seed quality issues remain

General observations

Role of seed marketing system

- Competition between seed companies made public seed companies step up
- Direct seed marketing has contributed to improved quality of seed marketed
- More direct accountability of seed producers to seed clients
- Seed clients has the ability to switch company if disappointed
- The influence of quality control is not absolute, the marketing system has a very important effect

Hybrid maize

- First priority by the inspection services
 - High price difference between seed and grain
 - Highest incentive for dishonesty
 - Technically more difficult to produce
 - Early generation seed more difficult to produce
 - Production of F1 hybrid seed requires skills
 - Highest damage for clients when poor quality seed
 - Little alternative for seed clients
 - Diversity of producers, most private companies involved

Wheat and teff

- Mainly produced by public seed enterprises and cooperative unions
- Low profit margins
- Limited interest of private seed companies
- Wheat demand dropped by 50% in the Oromia distribution system in 2017 (quality issues, variety availability)
- With regard to teff seed quality is also a constraint (purity)
- Certificate not appreciated, local seed is preferred.

Strength and weaknesses in seed quality control

- Organisation
- Logistics
- EGS
- Field inspection
- Laboratory inspection
- Storage and retail inspection

Organisation

Strengths

- Separate decentralised centres uniquely responsible for quality control
- A federal structure responsible for capacity building, arbitration and support to regional structures
- Strong functional linkage with the bureaus of agriculture and its offices
- Regional authority overseeing the laboratories in Amhara and SNNPR
- Payment for services being introduced

Weaknesses

- Oromia no regional authority yet, only the separate laboratories
- According to some, inspection services not entirely objective, private seed enterprises under closer scrutiny than public seed enterprises

Logistics

Strengths

- Decentralised laboratories are operational

Weaknesses

- Transport insufficient
 - Inspectors are forced to use public transport
 - In Amhara also motorbikes of office of agriculture are used
 - Inspectors solicit support of the seed companies (independence compromised)
 - Timing of inspections difficult
 - Refusal to accept the registration of difficult to reach fields
 - At times fields not reached on time
- Remuneration for the field work insufficient
 - Fast staff turn-over
 - Loss of experience

Early generation seed

Strengths

- Pre-basic and basic seed gets inspected

Weaknesses

- Serious complaints about EGS quality
- Breeder seed quality in particular very variable in quality, effecting pre-basic seed quality
- Most pronounced for parental lines of maize
- No independent control of breeder seed
- Little incentive for maintaining quality by researchers

Field inspections

Strengths

- Seem to be done sufficiently well according to most actors

Weaknesses

- Inspection capacity insufficient , also considering growth of number of seed producers
- For wheat and teff the minimum number of inspections is not always realised
- At times delays as a result of logistical constraints
- In cases the minimum field size cannot be enforced, as land fragmentation and field sizes do not allow it

Laboratory testing

Strengths

- Decentralised labs, with staff and minimum required equipment operational
- Provide accurate results to seed producers on time

Weaknesses

- Physical purity test not considering seed size, malformed and broken seed
- Genetic purity only assessed done during flowering
 - Allows for adulteration between harvest and storage
 - It is hinted at that this happens
 - Grow out tests by Bahir Dar lab confirm this
- Grow-out tests are not part of the quality control protocol
- Disease testing capacity of the laboratories is limited
 - No advanced equipment
 - Limited pathology expertise

Storage and retail inspection

Strengths

- Already piloted for cooperatives which are agents for direct seed marketing

Weaknesses

- Not established as standard practice with a sampling protocol
- Not applied in the seed distribution system
- Mainly physical appearance and storage conditions are assessed
- Germination rate judged only after 150 days of storage
- Genetic purity not assessed
- No follow-up of rejected seed

Suggestions for improvements

General

- Further roll-out of direct seed marketing in areas and for crops for which this is possible
- Stimulate competition in seed production, for other crops than hybrid maize
- Create accountability for all actors, including the seed inspection

Organisation

- Improve the operational capacity of the existing and newly established laboratories / branch offices
- Establish a regional agency overseeing the quality control in each region.
- Assure full independence of the inspection services from the economic interest of the public seed enterprises

Logistics

- Invest in field cars and motorbikes for the laboratories / branch offices
- Assure modest, but realistic field allowances are provided
- Implement the payment for services, at a fee that covers at least the running costs
- Assure the revenues of the inspection are invested in the inspection services

Early generation seed

- Introduce traceability and follow-up in the breeder seed production through mixed research-regulator teams
- Follow-up and testing to be done at regional level
- Communication of results to the right channels is important, as there are no direct economic incentives
- Consider developing performance incentives for the breeders to produce good breeder seed
- Consider incentives for the production of quality pre-basic seed

Field inspections

- Develop a system with accredited inspectors, particularly for outgrower systems of the major grains
 - Inspection has peaks, which are difficult to manage with full-time staff alone
 - Private self-employed or embedded part-time service providers
 - Trained by the federal or regional inspection bodies
 - Relied upon and paid as per need
 - Locally based, manage their own transport
- For local production by seed cooperatives without a COC, mainstream the QDS system further

Laboratory testing

- Revisit the laboratory standards to include the fraction of undersized, malformed, physically off type and broken seed as criteria
- Assess genetic purity through grow-out tests, as standard part of the quality control protocol, with associated sanctions
- Consider if laboratory testing is required and feasible for major seed borne diseases, or whether field observations suffice

Labelling / tagging

- Tagging after laboratory testing is an understandable desire by the quality control bodies
- Between the field and the store seed or grain can be added, which is happening
- Re-opening packaging after cleaning is not practical, so labelling on the outside of the bags
- Stickers used in Amhara come off and need a solution
- Even sticking the stickers on all bags after storage is cumbersome
- Another pragmatic solution needs to be found in discussion between seed companies and regulatory bodies
- Investigating how this is solved in other countries could be worthwhile

Storage and retail inspection

- Needs to be widened to random sampling among all seed stores and retail points
- Currently only in DSM not in the seed distribution system
- This is a large mandate, and too big for the current capacity of the laboratories.
- It requires strengthening of the capacity of the laboratories
- Develop a pragmatic protocol of regular spot checks and responding to reported difficulties by seed clients

Discussion topics

1. Improving early generation seed quality
2. Experimenting with self-employed or embedded accredited inspectors
3. How to improve quality control in the intermediate seed system (seed producers without CoC)?
4. How to integrate grow-out tests as standard requirement in the seed quality control system?
5. How to realise pragmatic seed quality control in the retail system (DSM and distribution)?
6. How to convince government to invest in the quality control system?

Group work

- 5 groups, each debate 2 topics
- Distribute regional representatives over the groups
- 30 minutes, first issue, 30 minutes second issue (report on flipchart)
- 30 minutes merging and prepare English presentation (flipchart)
- Presentations to the plenary (10 minutes per group)

Guiding questions

- Highlight the problem being addressed
- Suggest the solutions to pursue
- Indicate what is already being done by who
- Elaborate the next required actions (what and who)
- Other observations