

Early Generation Seed

Country: Ghana

	Profile Element	Response
1	Focus crops for EGS evaluation	<ol style="list-style-type: none">1. Maize2. Rice3. Cassava4. Soya bean5. Groundnut6. Cowpea
2	Authorized seed classes in the country	Plant and Fertilizer Act of 2010 defines four seed classes: <ol style="list-style-type: none">1. Parental material2. Pre-basic or breeder seed3. Basic seed4. Certified seed
3	Description of legally permitted EGS production entities	Among the focus crops: <ol style="list-style-type: none">1. CRI and SARI are two of 13 national institutes under the Council for Scientific and Industrial Research (CSIR). CSIR was formed in 1958 and re-established under the <u>CSIR Act 521 of 1996</u>2. <u>Ghana Seed Policy</u> mandates the Crop Research Institute (CRI) for maize, rice and root crops.3. Savanna Agricultural Research Institute (SARI) for all crops that are grown in the savanna agro-ecology.4. Public universities (including Kwame Nkrumah University of Science and Technology, University of Cape Coast, University of Ghana for any crop (not crop specific mandates)5. Grains and Legumes Development Authority- for all crops grown in the country6. Legacy Crop Improvement Center (LCIC) for maize and cowpea Integrated Water and Agricultural Development (IWAD) for maize and soybean7. West Africa Center for Crop Improvement (WACCI) for maize

4	Government entities (and location) producing EGS by focus crop	<ol style="list-style-type: none"> (1) CSIR-Crop Research Institute (CRI) for maize, rice, soya bean, cowpea, groundnut and cassava. (2) CSIR-Savannah Agricultural Research Institute (SARI) for maize, rice and soya bean. (3) Grains and Legumes Development Board (GLDB) for maize, rice and soya bean (4) West Africa Center for Crop Improvement for maize
5	Presence of seed demand forecasting at the government institutional level	There is no clear road map institutionalized for seed demand forecasting at the government institutional level. Seed projections are made based on previous seed usage quantities.
6	Number of full-time breeders (note crop) and technicians by government EGS faculty	Number of active breeders in 2019: Maize (7) Rice (4) Soya bean (5) Cassava (2)
7	Private sector and other non-government entities (and location) producing EGS in the country	<ul style="list-style-type: none"> • Legacy Crop Improvement Centre (LCIC) located in Koforidua in the Eastern region • Integrated Water and Agricultural Development (IWAD) located in Yagaba in the Northern Region
8	Estimated sources of EGS for focus crops for certified seed producers (% of total), e.g., importation from own company, specialized EGS company, CG centres, own local production, NARS, other certified seed company, etc.	<ol style="list-style-type: none"> 1. Crop Research Institute (CRI) - Public (19%) 2. Savanna Agricultural Research Institute (SARI) - Public (31%) 3. Grains and Legumes Development Board (GLDB) - Public (43%) 4. IITA (CGIAR) (2%) 5. Legacy Crop Improvement Centre (LCIC) - Private (3%) 6. University of Ghana Legon (2%)
9	EGS seed volumes, by crop and seed class, for the last four years	Basic seed in 2019: maize (217MT); rice (168.5MT); soya bean (59.4MT)
10	Adequacy of government-held nucleus and breeder seed available for EGS production	Informal engagements with stakeholders indicate approximately 10% adequacy leaving 90% gap to be filled. Quality of EGS is also a key GAP that need to be improved
11	Adequacy of EGS for commercial seed production, estimated % of the demand met	TASAI research captures seed growers' satisfaction with availability of basic seed. Ratings in 2020 were 86% (maize), 84% (rice) and 87% (soya bean)
12	Evidence of standardized descriptors for parental lines for focus crops	Descriptors for parental lines and varieties are developed and included in the national variety release catalogue as a requirement for registration of varieties (and parental lines) in the catalogue
13	General status of line maintenance for key varieties of focus crops, to enable proper ongoing EGS production	Line maintenance of key varieties especially at the Government mandated institutions (NARS and GLDB) is usually sub-standard due to lack of functioning irrigation systems, poor cold storage, limited funding to engage in EGS regeneration

14	Infrastructure in place to support government EGS production - land for multiplication, irrigation, cold storage, QC labs, etc.	Land for multiplication is available, however labour is a challenge so some government EGS programs partner with private sector to leverage on infrastructure including irrigation and cold storage
15	Infrastructure in place to support private-sector EGS production - land for multiplication, irrigation, cold storage, QC labs, etc.	LCIC's private facilities include: 50-ton seed gene bank with cold storage; 200-acre farm with irrigation facilities
16	Implementation status of national QA for locally produced EGS	GSID of PPRSD certifies foundation seed that is produced for sale to another entity for certified seed production. EGS produced for entity's own certified seed production is usually not certified, but the source of EGS is declared during the certification of certified seed produced from the EGS
17	Information about quality / effectiveness of national efforts to implement QA for imported EGS	Most imports are for certified seed, and not for EGS. Multinationals like SeedCo who are piloting in-country production of certified seeds import the EGS. This EGS is however not a commercial material but imported specifically for company's own certified seed production
18	Working status of pre-ordering and payment systems for EGS for focus crops	System appears to be working well. more than 85% of seed growers (for maize, rice, soya bean) in TASAI survey reported that they received the quantity of seed that they requested and in a timely manner. In addition, seed growers expressed high satisfaction levels (above 80%) with the quality of basic seed that they received.
19	Working status of certified seed producer allocation systems for EGS for focus crops	There is no allocation system for seed growers. Instead, seed growers that would like to source seed from GLDB, CRI or SARI would need to submit an application to the respective Director, specifying the crop, variety and volume. The grower receives an invoice, against which payment is made.
20	Timely availability of up-to-date information on government websites for EGS availability, ordering and payment	No information available on government (Ministry of Food and Agriculture, CSIR-SARI, CSIR-CRI, or GLDB) websites. However, information on volumes inspected and certified can be obtained from PPRSD