Mirimir

•ETHIOPIAN • INSTITUTE • OF • AGRICULTURAL • RESEARCH•

Towards Fitting in Agreements

The influence of scientific culture on human affairs can be salutary. The internationalism of science is traditional. Sciences belonging to different nations or different religions or ideological camps are not enemies or competitors, but collaborators in a common quest for the understanding of nature and the utilization of this knowledge for the benefit of mankind. This is due not to moral superiority of scientists, but to the nature of their activity. They have the same aims, use the same approach and depend for their success on exchange of experience with all others working in the same field. The value of world-wide cooperation and the threat of stagnation implied in any attempt at scientific secrecy and isolationism are obvious to them. Modern science began when the secret procedure of alchemy were replaced by open communication of results and theories. Science has found in the complete openness of its proceedings, giving everybody the chance to correct the errors of everybody else, an effective guarantee of continuous process.

Eugene Rabinowith
Science and public affairs

The National Agricultural Research System (NARS) was established for the purpose of improving and increasing the development of agricultural research in Ethiopia and reducing repetition of research efforts among agricultural research entities. The NARS framework encompasses federal and regional research institutions and higher education institutions in the country.

All Ethiopian Coordinated Research Projects (AECRP), establishing team is designed under the general supervision of NARS to facilitate the functions and aims of NARS. AECRP started its responsibility by designing multidisciplinary teams and preparing a study tour to India, the federal system of which is similar to the Ethiopian Federal System and serving as a ground for the country to share its national agricultural research system to Ethiopia.

The main objective of the tour was to learn how federal and regional research institutions are organized and linked to higher learning institutions and understand the duties and responsibilities of each party; comprehend the linkage between different public and private institutions involved in agricultural technology generation, multiplication, extension and development, and also perceive what AECRP

Contents

Towards Fitting in Agreements.....1

Training on Data Communication and FMIS.....3

የኢትዮጵያ የግብርና ምርምር ኢንስቲትዩት እና የብዝሐ ሕይወት አብሮነት.....4

Initiating All Ethiopian Coordinated Research Projects.....6

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can adopt from India.

The study helps the teams know the capacity of the Ethiopian NARS, repetition of research efforts and other major problems of research facilities by their disciplines. The multidisciplinary teams were the Livestock, Crop, Soil and Water, Agricultural Mechanization, Pastoral and Emerging Regions Research and Agricultural Economics teams.

The teams observed the establishment of the Indian Council of Agricultural Research (ICAR). ICAR is an autonomous organization under the Ministry of Agriculture (MoA) and the council is the apex body for coordinating, guiding and managing research and education in agriculture in the entire country.

After the study tour, AECRP launched a one day workshop to present the study of the teams and work together with the federal, regional research and higher institutions representatives.

The crop team is one of the six teams that fervently observed ICAR activities in India. During its stay, the team learnt that the formulation of ICAR is a significant development in the field of agricultural research in India, and that All Indian Council of Research Project (AICRPs) were initially formed for the improvement of agricultural crops, but later extended to all discipline of research. Major components of AICRP include central research institutes, agricultural universities and state departments of agriculture were brought to work together as a team to resolve research problems at national level.

The crop team strongly believed that there is a need to seriously consider the formation of a Research Advisory Council (RAC) composed of eminent scientists most of whom are retirees whose task would be to give strategic directions on the areas of research and overall guidance, and that our research coordination should be a separate national body that will be responsible for the coordination of research in the country and allocation of most of the resources following the countries administrative setup. Establishment of specialized institutes based on the agro-ecologies of the country may be required, and research institutes or a center of coordination for each commodity should be identified by a team of eminent agricultural scientists considering the potential of the area for the commodity as well as production constraints. Each institute or directorate needs to have its own Research Advisory Council composed of eminent scientists in the field.

The team underlined and concluded that to avoid the repetition of research efforts and ensure effective utilization of resources, NARS has to take up the all Ethiopian coordinated research approach, with an immediate use to those commodities that have country wide importance. Senior scientists have to form the skeleton of the research system and better salary scale may be placed to attract and retain researchers.

The soil and water team began its study from the newly recruited researchers. Usually PhD holders will be recruited at India, Delhi. They will be transferred to National Academy of Researchers Training at Hyderabad for six months training for research principles and practices. In this training, the candidates will be equipped with the different agricultural research procedures such as problem identification, planning and designing of research projects, trials and field management, data collection, analysis and interpretation, and scientific writing and presentation skills. After completion of six months training, the researchers will be attached to principal scientists for additional six months training. This enables the new researchers to see and work on a well-designed research activities conducted by senior and experienced researchers both under field conditions and in laboratories.

The team continued its study to expect a comprehensive overview of the agricultural research system in India with special emphasis on soil and water research and also to explore opportunities for collaboration on soil and water research between research institutes of the two countries. In the condition of soil science, India has Indian Institute of Soil Science (IISS). This is the only national center in India which is carrying out research on all

aspects of soil science comprising of soil physics, soil chemistry and fertility, environmental soil science and soil biology. The main duties of AICRP are soil test and crop response based fertilizer recommendation, long term fertilizer experiments, micronutrients and bio-fertilizers.

Based on the Indian experience, the soil and water management team took experiences that may be important to adapt from the AICRP. Based on this, the team concludes that AICRP has strong institutional linkage and well networked infrastructures; it has also institutionalized major commodities such as: soils, crops, irrigation, livestock, forestry, farm implements, etc.

The other team was the livestock team that visited livestock research institutes and attended briefings by scientists and physically visiting research set-ups, facilities and findings; reviewed available documents obtained from the institutes and their websites; and observed overall agricultural practices in general and livestock practice in particular under on-farm conditions. Generally, the team understood the enabling environments that facilitate the generation and transfer of livestock, poultry and fishery technologies of India.

The NARS of India comprises of two streams: that is ICAR and state agricultural and veterinary universities. Besides, several other agencies are also part of NARS of India—the conventional universities, scientific organizations, various ministries and departments, and private institutions participating directly or indirectly in agricultural research. According to the livestock team, the NARS of India has approximately 30,000 scientists and over 100,000 support staff, being the largest agricultural research system in the world. ICAR also directly administers 97 institutes, bureaus and directorates, out of which 22 are livestock and fishery institutes.

The livestock team focused on Animal breeding, Animal health, feed resources and nutrition, product handling and processing technologies, technology adaptation and quarantine, technology release, and multiplication and transfer of technologies.

The team shared experiences about a major component of the research system in all commodities. The team noted the need for an institution that can handle the characterization, evaluation, conservation and improvement of animal genetic resources with the biodiversity institute of Ethiopia meant to look after all the genetic resources (plant, animal and microbes) conservation is not giving due emphasis to the livestock, poultry and fisheries sub-sectors.

The team also noted the need for an organization which can multiply and distribute superior germplasms to end users, and the importance of the establishment of commodity-based research center and the need for upgrading one to advanced animal breeding and genetics research center.

The team concludes that one strong leading institution can coordinate agricultural researches and carryout advanced research activities. Currently, there is no such body in the research system.

The Agricultural Mechanization, Pastoral and Emerging Regions Research and Agricultural Economics teams also shared the best experiences based of their disciplines.

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Training on Data Communication and FMIS

The Information and Communication Directorate of the Ethiopian Institute of Agricultural Research (EIAR) has provided a three-days training on Data Communication and Financial Management Information System (FMIS) to top management and directors of research centers and secretaries.

The training, which was provide by ICT experts of the institute, was aimed at supplementing trainees skill and

understanding of modern data communication tools with advanced levels of knowledge, and thereby facilitate the communication of various forms of information involved in day-to-day activities of work processes through swift and state-of-the-art communication methods.

As part of the primary session of the training, trainees were given theoretical and practical lessons on various types and methods of data communication tools utilizing locally established computer networks, the purposes and benefits ascribed to each communication tool, security issues associated with data communication and precautions that should be taken during the utilization of each communication tool.

In the second part of the training, trainees were introduced to Finance Management Information System (FMIS) software which was specially developed for agricultural sectors to facilitate the detail workflow of financial processes and to give information and reports in clear, accurate and faster way. During this session, trainees were learnt how to access, control and manage various budget types such as capital budgets, recurrent budgets, supportive projects, annually and monthly planed and released budgets.

Training Participants

At the end of each session of the training, trainees were able to fully grasp the knowledge and skill required for a facilitated data communication processes required for their respective work processes. Other training session on ICT and ICT related issues that are helpful for smooth and facilitated activities of the institute are also planned to be delivered by ICD.

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የኢትዮጵያ የግብርና ምርምር ኢንስቲትዩት እና የብዝሐ ሕይወት አብሮነት

ኢትዮጵያ የብዝሐ ሕይወት ዓለም አቀፍ ስምምነትን ከፈረመች በኋላ የብዝሐ ሕይወት ጥበቃ ኢንስቲትዩት ኢትዮጵያን ወክሎ የስምምነቱን ዓላማዎች ከግብ ለማድረስ ከሚመለከታቸው የባለድርሻ አካላት ጋር በመተባበር በመሥራት ላይ ይገኛል፡፡ በመሆኑም በአገራዊ የግብርና ምርምር ሥርዓት የታቀፉ የፌዴራልና የክልል የግብርና ምርምር እንዲሁም የከፍተኛ ትምህርት ተቋማት ሀገሪቱ ያላትን እምቅ የግብርና ብዝሐ ሕይወት ሀብት አቅፎ የያዘውን የግብርና ሥርዓተ ምህዳር ለማልማትና በዘላቂነት ጥቅም ላይ ለማዋል የሚያስችል የምርምር ሥራ በመሥራት ከኃብቱ የሚገኘውን ጥቅም ለአገሪቱና ለኅብረተሰቡ ለማስገኘት ወሳኝ ሚና በመጫወት ላይ ይገኛሉ፡፡

በመሆኑም የግብርና ምርምር የልማት አቅጣጫ ብዝሐ ሕይወትን መሠረት ያደረገ ሲሆን፤ በተለያዩ የሰብል አብቃይ አካባቢዎች እንደ ኅብረተሰቡ ባህልና ቋንቋ እንዲሁም የአመራረት ዘዴ የተለያየ መጠሪያ ያላቸውንና ከትውልድ ትውልድ ሲተላለፉ የመጡ እና የአርሶ አደሩ ንብረት የሆኑ ዝርያዎችን የእርስ ተለያይነት /Variability/ ሳይንሳዊ

ዘዴዎችን ጭምር በመጠቀም ማረጋገጥና ዝርያዎችንም የመጠበቅ ሥራ ተጠናክሮ እየተሠራበት ይገኛል፡፡ ምክንያቱም በአገር በቀል ዝርያዎች ውስጥ ያለው ተለያይነትና ጠቀሜታው በቀላሉ የሚታይ ስላልሆነ ነው፡፡

ለአብነት ለመጥቀስ ያህል በአሜሪካ ቢጫ የገብስ አቅጭጭ ቫይረስ /Barley Yellow Dwarf Virus/ የአሜሪካን ሰፋፊ የቢራ ገብስ ማሳዎች ባወደመበት ወቅት ለዚህ የቫይረስ በሽታ የተገኘው መፍትሔ ከኢትዮጵያ ሀገር በቀል ገብስ /Landrace/ የተወሰደ ዘረመል እንደሆነና በዚህ ምክንያት በመቶ ሚሊዮኖች ዶላር የሚቆጠር ጥፋት እየዳነ እንደሆነ የአገር በቀል ሰብሎች ተለያይነት ፋይዳ ዓይነተኛ ማስረጃ ነው፡፡

በተጨማሪም ከጫካ ቡና ግንድ አድርቅ በሽታን /Coffee Berry Disease/ የሚቋቋሙ ዝርያዎች በምርምር ሊገኝ በመቻላቸው በ1970ዎቹ መጀመሪያ ኢትዮጵያን ጨምሮ በቡና አብቃይ የምሥራቅ አፍሪካ አገሮች ተከስቶ የነበረውን የቡና ዘር በሽታ ሊያስከትል የነበረውን ቀውስ በመቀልበስ በቡና ኢንዱስትሪው ሊደርስ የነበረውን ከፍተኛ ችግር ለመቅረፍ ተችሏል፡፡

ስለዚህ በአገር በቀል ሰብሎች ያለውን ተለያይነት በሚገባ በጥናት ማረጋገጡ ወደፊት በአምሳያ ሰብሎች ለሚቀየሰው የማዳቀል ፕሮግራም ትልቅ ፋይዳ አለው፡፡

አገር በቀል ሰብሎችን ጥቅም ላይ ለማዋል በተደረገው ጥረት የምርምር ሥራዎች በርካታ የተሻሻሉ ዝርያዎችን ለአርሶ አደሩና ለሌሎች ተጠቃሚዎች አበርክተዋል፡፡

ከእነዚህም ጤፍ አገር በቀል በመሆኑ ዝርያዎችን ለማሻሻል የሚደረገው ጥረት ኢትዮጵያ ውስጥ በኢትዮጵያውያን ብቻ የሚደረግ ነው፡፡ የተሻሻሉ ዝርያዎችን ለማፍለቅ መነሻ የሚሆነው ብዛ ዘር /ጀርምፕላዝም/ የሚገኘውም ከኢትዮጵያ ብቻ ነው፡፡ ዝርያዎችን የማፍለቁ ሥራ ላለፉት 40 ዓመታት የተካሄደ ሲሆን፤ የተገኙት የተሻሻሉ ዝርያዎችም በገበሬው ዘንድ ጥቅም ላይ ውለዋል፡፡ በዚሁ መሠረት የደብረ ዘይት ግብርና ምርምር ማዕከል እስከ አሁን ድረስ ከአገር ውስጥ ብዛ ዘሮችን በማሰባሰብ፣ በመምረጥና በማዳቀል 17 የተሻሻሉ የጤፍ ዝርያዎችን በምርምር አውጥቶ ለተጠቃሚው እንዲዳረስ ያደረገ ሲሆን፤ በአገር አቀፍ ደረጃም በተለያዩ ክልላዊ የግብርና ምርምርና ከፍተኛ የትምህርት ተቋማት በተደረጉት የዝርያ ማሻሻል የምርምር ሥራዎች የተለቀቁት የጤፍ ዝርያዎችን ብዛት ከ30 በላይ አድርሶታል፡፡ በመሆኑም የጤፍን ምርት እጥፍ ከማድረግ አልፎ አራት እጅ እንዲጨምር ተደርጓል፡፡ ይኸውም ከ8 ኩንታል በሄክታር እስከ 32 ኩንታል በሄክታር ለማምረት ተችሏል፡፡

በገብስ ቀደም በሎ በመረጣና በድቅላ የተለቀቁ ዝርያዎች በጥሩ አያያዝ ካልሆነ በስተቀር ጥሩ ውጤት ሊሰጡ ባለመቻላቸው ምርምሩ በሂደት በአነሰተኛ ግብዓት የተሻለ ውጤት ሊሰጡ የሚችሉ ዝርያዎችን ለማግኘት ከሆለታ፤ ከበቆጂና ሸኖ አካባቢዎች ጋር ተቀራራቢነት ካላቸው ሥነ ምህዳሮች ከተሰበሰቡት የሀገር በቀል ገብስ ላይ የዝርያ መረጣው ሥራ ተጠናክሮ በመቀጠሉ ለየአካባቢያቸው ተስማሚ የሆኑ የተሻሻሉ 17 ዝርያዎች ሊወጡ ችለዋል፡፡

አገር በቀል የስንዴ ዓይነቶች ለማካሮኒ ስንዴ ከፍተኛ አስተዋፅዖ አድርገዋል፡፡ ለምሳሌ አረንዴቶ የተባለው የስንዴ ዝርያ ከአገር በቀል ስንዴ በመረጣ የተገኘ ነው፡፡ ቡሄና ማሩ የተባሉት የተሻሻሉ ዝርያዎችም ሀገር በቀል ስንዴንና የውጭ አገር ስንዴን በማዳቀል የተገኙ ዝርያዎች ናቸው፡፡

በማሽላም ኢትዮጵያ የLycine aminoacid ይዘት ያላቸው አገር በቀል የማሽላ ዓይነቶች ባለቤት ናት፡፡ ይህንንም የበለፀገ ፕሮቲን ለዓለም አበርክታለች፡፡

ኢትዮጵያ ለኑግና ለሀበሻ ጎመን ዘር የመገኛ ማዕከል ስትሆን ከየሰብሎቹ አገር በቀል ዝርያዎች በተደረገው የመረጣ ምርምር ከኑግ 5 ከጎመን ዘር ደግሞ 3 የተሻሻሉ ዝርያዎች ተገኝተዋል፡፡ የሁለቱንም ሰብሎች ምርት በእጥፍ ለማሳደግ ሲቻል በተለይ የተሻሻሉ የጎመን ዘር ዝርያዎች ብላክሌግ /Blackleg/ የተባለውን በሽታ ጥቃት የሚቋቋሙ ናቸው.፡፡ በአንድ ወቅት /Blackleg/ በወረርሽኝ ደረጃ ተከስቶ እስከ አሁን ድረስ ከውጭ የመጣውን የፈረንጅ ጎመን ዘር ከምርት ውጪ ያደረገ አደገኛ በሽታ መሆኑ ይታወሳል፡፡ በተጨማሪም አገሪቷ ለሰሊጥና ተልባ የተለያይነት ማዕከል ስትሆን ከአገር በቀል ዝርያዎች በተደረገው መረጣ በሁለቱም ሰብሎች በምርትና በበሽታ መቋቋም ባህርያት በርካታ የተሻሻሉ ዝርያዎች ለማውጣት ተችሏል፡፡

እንስሳትና የመኖ ዕፅዋትን በተመለከተ በህዝብ ብዛት በአየር ንብረት ለውጥና ቴክኖሎጂ እድገት ምክንያት የእንስሳትና የመኖ ዕፅዋት ብዝሐ ሕይወት እየተመናመነ ይገኛል፡፡ በአገር አቀፍ ደረጃ በእንስሳት ብዝሐ ሕይወት ጥበቃ ዙሪያ ክፍተት አለ፡፡ በዚህ ሳቢያ ከፍተኛ ጠቀሜታ ያላቸው የእንስሳት ዝርያዎች እየጠፉ ይገኛሉ፡፡ ለምሳሌ ሸኮ እና ፎገራ የተባሉት የከብት ዝርያዎች ጨርሰው ከመጥፋታቸው በፊት ጥበቃ ሊደረግላቸው ይገባል፡፡

የእንስሳት ዝርያ ማሻሻያና የልማት ሥራዎች አገር አቀፍ ፖሊሲ ባለመኖሩ የሀገር በቀል ዝርያዎች (ለምሣሌ ዳልጋ ከብት፤ ዶሮ፤ በግና ፍየል) እየተበረዙ በመሆናቸው ንፁህ ዝርያ ለማግኘት በአንዳንድ አካባቢ ችግር እየሆነ መጥቷል፡፡

የአገራችን የተፈጥሮ ደኖች በመመናመን ላይ በመሆናቸው አንዳንድ ዝርያዎች በመጥፋት አደጋ ላይ መሆናቸው ይታወቃል፡፡ ይህንን ችግር ለመፍታት በተፈጥሮ ደኖች ላይ ደኖቹ የሚገኙበትን ሁኔታ፤ የዝርያዎች ስብጥር እና ዕድገት ላይ ምርምር በመካሄድ ላይ ይገኛል፡፡ ይህ ጥረት የተጎዱ ደኖች እና የተመናመኑ ዝርያዎች መልሰው እንዲያገግሙ የሚያስችል ስትራቴጂ ለማውጣት ይረዳል፡፡ ጠቃሚ ውጤቶችም ተገኝተዋል፡፡

በተፈጥሮ ደኖችና ውስን የዛፍ ዝርያዎች ላይ ያለውን ጫና ለመቀነስ የሰው ሠራሽ ደኖች ልማት እና ፈጣን ዕድገት ያላቸውና ሁለገብ አገልግሎት የሚሰጡ የዛፍ ዝርያዎች ከውጭ በማስገባት የማላመድ የምርምር ሥራዎች እየተካሄዱ ነው፡፡ አበረታች ውጤቶችም ተገኝተዋል፡፡

የደን ልማት፤ ጥበቃና አጠቃቀም ሥራዎችን ለማገዝ ተፈላጊነት ያላቸውን ሁለገብ የዛፍና ቁጥቋጦ ዝርያዎች ዘር በማሰብሰብ፤ በማጣራትና በማከማቸት ለተጠቃሚዎች የማሠራጨት እንቅስቃሴዎች በመካሄድ ላይ ይገኛሉ፡፡

በመሆኑም የጂኔቲክ ኃብታችንን በመጠበቅና፤ ቀጣይነት ባለው መልክ በማዳበር ለመጠቀም በማስቻል የዕድገት እና ትራንሰፎርሜሽን እቅዳችን ከግቡ እንዲደርስ ከፍተኛ ርብርብ ማድረግ ይኖርብናል፡፡

በዚሁ ረገድ ከጊዜ ወደ ጊዜ እየጨመረ የመጣውን የአየር ንብረት ለውጥ ክስተት፣ ድርቅ፤ ውርጭ፤ የውሀ ማቆር፤ የሰብል በሽታዎችና የተባዮች ወረርሽኝ ተፅዕኖን መቋቋም የሚችሉ ዝርያዎች ለማግኘት በአገር በቀል ሰብሎች ላይ የዝርያ መረጣና ማዳቀል ሥራዎች ተጠናክረው መቀጠል አለባቸው፡፡

በአጠቃላይ የሕይወታዊ ኃብት ጥበቃ፣ ተገቢ አያያዝና አጠቃቀም ለኢትዮጵያ ሕዝብ ማኅበረ-ኤኮኖሚያዊ ዕድገት ከፍተኛ አስተዋጽኦ የሚያደርግ በመሆኑ በሳይንሳዊ የምርምር ግኝቶች ሊደገፍና ሊጠናከር ይገባል፡፡

ለዓለም ዓቀፍ የብዝሐ ሕይወት ቀን
በኢትዮጵያ የግብርና ምርምር ኢንስቲትዩት ዳይሬክተር ጀኔራል
በዶ/ር ሰሎሞን አሰፋ ተወካይ በአቶ ረዘነ ፍሥሐዬ የቀረበ
ግንቦት 16/2003

Initiating All Ethiopian Coordinated Research Projects

The establishment of strong national agricultural research coordination apex among research and higher education institutes is important to streamline scattered efforts into coordinated programs with greater chances of success and permanence.

It was this understanding that gathered directors of all research centers of the Ethiopian Institute of Agricultural Research and coordinators of all research processes, directors of the regional agricultural research institutes, and higher education institutes at the HQ of EIAR to participate in the all Ethiopian Coordinated Research Projects launching workshop held on 23rd of May, 2011.

India's success and experience in the coordinated agricultural research system was the most important part of the workshop which could be the major input for the mapped out approach of Ethiopian coordinated research project in improving staff recruitment, capacity building, promotion system, partnership between research and agricultural higher education, strong planning, monitoring and evaluation systems, adoption of technologies and many more focus areas were suggested to be nationally coordinated research activities.

Improving the livelihood of the farming community by providing appropriate technologies is the ultimate target which everyone anticipates. This most important notion was behind all participants motivation in the workshop that led them to a very hot discussion and finally brought valuable ideas on basic issues such as enhancing the research capacities of Ethiopian Agricultural Research System (EARS) requires collective, incorporated and sustained interaction across the value chain including the active joint effort of decision makers, research institutes and educational institutes. Strong and effective national agricultural research system requires constant determination, support, and commitment allied with appropriate policies and research management, consistent objectives, qualified and motivated scientists, adequate research facilities and effective coordination.

The suggestions were continued to impress and it was believed that for sustainable agricultural growth, NARS must give due attention to social sciences in its research agenda and higher education institutes should expand their horizon to research and extension. The workshop was also successful in identifying constraints and proposes ways and means for the effectiveness and sustainability of the EARS and indicating linkage mechanisms of concerned bodies in the research system.

The workshop underlined the need to have strong coordinating apex that only shared goals lead to bring together a decisive mass of

exemplary scientists and institutions to constitute a fruitful agricultural research.

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