The ICAC Recorder

Extension Methods Relevant to Africa

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Cotton is grown commercially in more than 70 different countries, mostly under arid and semi-arid environments. It is either grown rain-fed or through irrigation in the longitudinal band between 37° N and 32°S (ITC, 2011). It is a major agricultural and industrial crop that provides employment and income for about 250 million persons involved in its production, processing and marketing across the globe (Kranthi, 2017). It is cultivated on 30-36 million hectares across the world by 26.0 million cotton growers mostly from Asian countries (85.0%) and African countries (13.8%). In Africa alone, cotton is cultivated by 3.61 million farmers on 4.2 million hectares in 19 countries (Kranthi, 2018). African cotton growers primarily encounter challenges of poor access to agricultural inputs and technologies; low cotton yields; and low remunerative prices. To increase the yield of cotton in Africa, many reforms have been implemented during the 1990s both by the public and private sectors. Irrespective of these reforms and approval of biotech cotton in six countries of Africa, the yields are low and stagnant (Sabesh and Prakash, 2018). Among the various causes for the low yields, the slow diffusion of both locally developed cotton technologies and know-how adapted from other countries to the end users appears to be the most critical. Several researchers argue that without access to technological inputs, cotton yields in Africa cannot increase (ICAC, 2018). This paper explores the relevance of modern tools of technology transfer that may improve the diffusion of technologies for a desirable change in the cultivation behaviour of cotton growers in Africa and thereby enhance cotton productivity.

Key Issues Related to Cotton in Africa

Agriculture is generally referred to as the mainstay of the African economy — the real driver of economic growth — because it contributes substantially to the Gross Domestic Product (GDP) and export earnings of many African countries (Msuya *et al*., 2017). African agriculture is dominated by a variety of food crops and a few traditional cash crops including cotton (Sabesh and Prakash, 2018). Most of the cotton grown in African countries — including Burkina Faso, Cameroon, Chad, Côte d'Ivoire, Kenya (western), Mali, Malawi, Mozambique, Tanzania, Togo, Uganda, Zambia, and Zimbabwe — is almost completely dependent (95-100%) on rainfall (Kranthi, 2018). From 2000-2017, cotton production in different African countries varied from 15,000 MT in South Africa to 215,000 MT in Burkina Faso; exports varied from 4,000 MT from Ethiopia to 205,000 MT from Burkina Faso and cotton consumption varied from 1000 MT in Chad and Senegal to 162,000 MT in Egypt (ICAC, 2018; Sabesh and Prakash, 2018).

Cotton yields in Africa are the lowest in the world. The 10-year average yield from 2008 to 2017 are:

- 162-202 kg/ha in Kenya, Central African Republic, Chad, Mozambique, Nigeria and Tanzania;
- 246 to 300 kg/ha in Zimbabwe, Malawi, Zambia, Uganda and Togo; and
- 343-424 Kg/ha in Ghana, Senegal, Ethiopia, Benin, Mali, Burkina and Cote d'Ivoire.

Yields are relatively higher in Sudan, South Africa and Egypt, where cotton is mostly irrigated. The challenge of low yields in Africa is historical. It appears to reflect a combination of neglect in agricultural research and technology transfer. Either investment in agricultural research and commitment to farming was so low that there was hardly any scope of inventions or discoveries that may have enabled a breakthrough in agriculture or the possibilities of any of the few innovations to move beyond the gates of research institutions. There has been a long stagnation in research investment in Africa over several years (Poulton, 2009). Some national agricultural research systems in sub-Saharan Africa have only 'notional' budgets (less than US$20 million per year) and many employ fewer than 50 research scientists (Evenson and Gollin, 2007). More than half of sub-Saharan countries have fewer than 100 regular staff employed in agricultural research, with the private sector accounting for only 2.0% of the total investment in agricultural research (Beintema and Stads, 2004). A total of 292 studies that were published from 1953 to 2000 were reviewed to report a total of 1,886 estimates of return that showed mean rates of return on investment of 100% for agricultural research, 85% for extension, and 48% for combined investments in both research and extension (Alston *et al*., 2000). Such studies highlight the need for increased investment in agricultural research and extension services in Africa.

Small farmers receive on an average US$0.21 per kg seed-cotton in Zimbabwe and about US$0.33 per kg in Burkina Faso. The gross revenue per hectare was US$ 103.91 in Mozambique and US$345.53 in Cameroon, but the net profits were US$2.37 in Mozambique (Poulton *et al*., 2009) and a net loss of US$72.34 in Zambia. The cotton produced in Africa is mainly exported to Asia to process into yarn. The domestic value addition of fibre in Africa is generally low. About 2.0% of the cotton produced is used in the local textile mills in the major cotton growing countries of West Africa such as Burkina Faso, Mali, Benin, Chad, Côte d'Ivoire, Cameroon and Togo. Similarly, only 7.7% of the cotton produced in Zambia, Zimbabwe, Mozambique, Uganda is used by the domestic mills in the respective southern and eastern African countries. In Africa, reasonably sized textile mills exist only in Nigeria, Egypt, Ethiopia, Sudan, South Africa and Tanzania.

Low yields in Africa are a function of biotic, abiotic and management factors. Insect pests and diseases constitute the major biotic factors that exert a significant impact on cotton production in Africa. The hot tropical and semi-arid climatic conditions of the major cotton-growing countries in Africa favour multiple pest generations and heavy pest densities every year (Oerke, 2006). Although widespread use of chemical pesticides for cotton pest management throughout the world has helped farmers to overcome yield losses, it is also the source of many problems in Africa. On an average the cotton producers in Africa, spray about six times per year, although as many as ten sprays are not uncommon. About 14-15% of the global insecticide use is devoted to cotton and almost half of the insecticides in Africa and a significant proportion in other developing countries are used on cotton. Several of those insecticides are classified by the World Health Organization as 'highly hazardous' (Kooistra *et al.,* 2006). Moreover, the availability and promotion of cheap, low-quality insecticides combined with sub-optimal agricultural practices have led to the emergence of insecticide resistance in a number of pests coupled with the decline or disappearance of natural enemies of cotton pests that formerly helped in maintaining an ecological balance (Tabashnik *et al.,* 2013). By far the most visible issue related to cotton cultivation, particularly in African countries, has been the relationship between low international prices and domestic support for cotton production (VIB, 2018). A study in Benin estimated that a 40% drop in cotton prices caused an 8% rise in rural poverty, where cotton accounted for 22% of the gross value of crop production in Benin (Minot and Daniels, 2005).

African Extension System & African Cotton Extension System

Different types of agricultural extension approaches are being practiced in various parts of the world to facilitate the transfer of technologies from laboratories to the land with an aim to make farming systems economically profitable and environmentally sustainable. Each approach reflects a particular set of objectives, aims, clients and socio-cultural setting. Over the years, Africa has practiced a mix of extension approaches, starting with colonial commodity approach that marked the connection of scientific agriculture in Africa to the Training and Visit (T & V) system (Akinola *et al.*, 2011). Under the commodity based approach, *Compagnie Francaise pour le Developpement des Textiles* (French Company for Development of Textiles), provided extension services for cotton growers in a number of francophone West African countries. Similarly, the cotton parastatals in Côte d'Ivoire, Mali, and Togo have extended their crop coverage during the commodity approach period (Roberts, 1989). 'Community development cum extension approach', which is the successor of the commodity-based approach worldwide, had operated to a limited extent in Africa. The latter innovation-centred approach could not succeed in Africa because of the inadequacy of technical information being extended. From the 1940s to the 1980s, the Food and Agriculture Organization of the United Nations (FAO) provided global leadership in extension by drawing on its worldwide field experience and offering counsel to member states on a range of extension models. The farmer–focused approaches of FAO were challenged by the World Bank's initiative 'training and visit (T&V) system' in late 1970s and 1980s in Africa (Eicher, 2007). Some of the African countries such as Mali are currently using a modified version of T&V called 'Block Extension' (Dembele, 2007). Simultaneously, in many cotton-growing African countries, the cooperative movement spread rapidly, and several hundred primary societies had sprung up. In 1990s, many non-governmental organisations (NGOs) emerged as 'agents of development' in Africa. In the 1990s and 2000s, governments and their development partners started reforming traditional extension services to address their major weaknesses (Roling, 2006; Rivera and Alex, 2004). In 2000, an important institutional arrangement called 'Famer Field School (FFS)' network emerged as the most preferred extension method to empower farmers. Currently many reforms have been taken place in the African extension system; for example, the farmer-to-farmer extension (diffusion) approach developed by farmer innovators in Burkina Faso includes the 'Market Day', the 'Teacher-Student' approach and the 'Zaï Field School' (Akinola *et al.,* 2011). Examples of SSA countries that are implementing some form of demand-driven extension models (pluralistic, participatory, FFS, SG-2000; modified T&V, etc.,) include: Benin, Ethiopia, Ghana, Mali, Mozambique, Nigeria, Rwanda, Senegal, Uganda and Zambia (Davis, 2008).

As for the evolution of an extension system exclusively for cotton in Africa, there were stages viz., introduction

of cotton into Africa, integration of cotton extension with other activities, development of CFDT (Compagnie Française pour le Développement des Fibres Textiles) derived extension system, cotton extension through community development, T&V, modified T&V, FFS and Information and Communication Technology (ICT)-based cotton extension interventions. During the introduction stage, the companies used highly trained extension personnel to provide techniques to farmers for achieving high yields when cotton crop was newly introduced. In the integration stage, the supply of inputs, provision of equipment, and management of both seasonal and investment credit were added to the agent's extension and marketing tasks. Added to this, the extension workers were made responsible for the distribution of seeds and the dissemination of improved techniques for all farm activities. Currently, many countries in Africa are benefitting from the FFS approaches and ICT based Extension services.

Constraints in African Cotton Extension System

The present extension system in Africa is facing many constraints in disseminating agricultural technologies to farmers. The high cost of reaching large sections of smallholders who are geographically dispersed in remote areas is a major constraint. The problem gets compounded due to the high levels of illiteracy, limited access to mass media, and high transportation costs. Similarly, the outcome of extension efforts depends on policies related to input and output prices, credit policies, input supplies, marketing and infrastructure system, etc., over which the extension system has little influence. Other major constraints include:

- Weak political commitment and low level of support for agricultural extension budget and expenditure;
- Weak accountability which reflects in low-quality and repetitive advice given to farmers; and
- Meagre efforts of extension agencies to interact with farmers and learn from their experiences.

Agricultural extension systems also become weak due to extraneous duties assigned to government extension staff. Such extra duties other than knowledge transfer include collection of statistics, distribution of subsidised inputs, assisting and collecting loan applications, and election campaign work on behalf of local or national ruling parties (Feder, Willett and Zijp, 2001). Moreover, the traditional approaches of extension in Africa were seldom inclusive. They did not take advantage of farmers' indigenous knowledge and provided limited scope for participation of women farmers. Many extension programs of Africa could not reach the farmers in the remote areas. The private extension efforts in many African countries are poorly regulated and hence likely to mislead farmers, mostly in favour of promoting agrochemicals. Very few women have been employed as extension managers and frontline extension agents in Africa. These factors led to cotton lagging behind other crops since the increase of yields in cotton has been slower than in food crops such as rice and wheat; which is also one of the reasons for the less attractiveness of cotton to public extension systems in Africa. Modern extension approaches in Africa face several other challenges such as weak implementation of Intellectual Property Rights, limited capacity to regulate and coordinate multiple providers of advisory services that lead to multiple and conflicting messages targeting same end users and lack of market led extension.

Extension Methods Relevant for Africa

Extension services are amongst the most important rural services in developing countries. Evidences from many countries show that agricultural extension is a pro-poor public investment that is most relevant for African countries. Studies state that one agricultural extension visit reduced poverty by 9.8% and increased consumption growth by 7.1% in Ethiopia (Dercon, *et al.,* 2008). Therefore, it is important to introduce a few novel extension methods such as field demonstrations, cotton schools, web- and mobile-based cotton advisory services, 'farmer to farmer' technology dissemination tools, empowerment and capacity building of farmers, gender mainstreaming methods, public-private partnerships, and information and communication technologies (ICTs) for technology transfer in Africa (Kranthi, 2018).

Field demonstrations

'Show me how' is the mantra of the demonstration concept. It started during the birth of Cooperative Extension (1896-1905) of the Land Grant Commission of the United States of America. The father of the 'demonstration concept', Seaman A. Knapp, the special agent with the United States Department of Agriculture, established the first demonstration farm in 1903 at Walter C. Porter farm, near Terrell, in Kaufman County, Texas. Interestingly, the first-ever field demonstration farm had a cotton crop (Martin, 1921).

The front-line demonstration (FLD) format which was adapted from the 'demonstration concept' has been highly successful in India. The FLD approach is most likely to suit Africa because of the identical nature of challenges in small-scale farming systems in Africa and India (Kranthi, 2018). Since 1996, India has been conducting field demonstrations on cotton under the close supervision of cotton scientists. In the FLD format, the implementing centres are given the challenge of enhancing production in low productivity areas in their respective states. A baseline

survey using participatory rural appraisal methods is conducted to understand the resource endowments of the farmers and the level of cotton productivity in the region. Benchmark surveys are conducted before taking up the demonstrations, which includes information on the crops and cropping system of the area, inter cropping, average yields of cotton, local practices adopted and information on cost of cultivation. For selecting the beneficiaries and identifying the priority areas, rural agencies are actively utilised. A list of beneficiaries and their plot numbers are notified in the local Block Development Office. Farmers are selected in consultation with local leaders and Agricultural Officers. These officials form part of the FLD team. Technological interventions are planned and demonstrated by the scientists in selected farmers' fields based on the problems identified. Critical inputs needed for the technological interventions are supplied and frequent field monitoring visits are made. The results of FLDs are compared with yields of farmers' regular practices. An impact analysis after the harvest is carried out to assess the extent of reduction in insecticide use, yield enhancement, reduction in cost of cultivation, awareness of modern technologies etc.

Until 2017, a total of 19500 demonstrations were conducted in eleven cotton growing states of India with a budget outlay of 102.8 million rupees (about US$ 1.45 Million) by sixteen participating centres. Analysis on yield parameters over twenty years revealed an 18.0% increase in yield in FLDs when compared to farmers' regular practices. Considering the similarities in the profiles of cotton growers in India and Africa, the FLD format appears to be a preferred transfer of technology (TOT) practice for improving the socio economic status of cotton growers in Africa (ICAC, 2018).

Figure 1. Indian cotton scientists monitor a Front-Line Demonstration (FLD) plot in Punjab, India, in 2016

The Cotton Farmer Field School (FFS)

The Farmer Field School (FFS) approach is yet another successful extension method that could be used for the dissemination of cotton technologies in Africa. The FFS approach was first developed by FAO and its partners about 25 years ago in Southeast Asia as an alternative to the prevailing top-down extension method of the Green revolution. In a typical FFS, a group of 20-25 farmers meets once a week in a local field setting and under the guidance of a trained facilitator. In groups of five, farmers observe and compare two plots over the course of an entire cropping season. One plot follows local conventional methods while the other is used to experiment with what are considered as 'best practices'. Farmers conduct simple experiments by observing key elements of the agro-ecosystem by measuring plant development, taking samples of insects, weeds and diseased plants, and conducting simple cage experiments or comparing characteristics of different soils. At the end of the weekly meeting, they present their findings in a plenary session, followed by discussion and planning for the coming weeks (FAO, 2018). Studies showed that the adoption of IPM by FFS had significantly reduced the overuse of pesticides and is expected to mitigate the serious consequences that the heavy use of pesticides has been causing on human health, biodiversity and water quality in India, Africa and other developing countries. The strong correlation between knowledge levels and reduction in pesticide use proved that a skill-oriented, knowledge intensive and hands-on education approach — as used during the FFS — is an efficient system to deliver the complex IPM principles to farmers. The FFS approach focuses on the importance to judge the necessity for plant protection interventions on the basis of agro-ecology and actual field needs, which provides a good road map to sustainable agriculture. Substituting pesticides with bio-control agents or other technologies such as biotech cotton are unlikely to emerge as definitive solutions to sustain agricultural productivity, if these new technologies are not paired with appropriate educational programs (Usharani, 2007).

ICT-Based extension services

The recent advances in ICT have changed the way knowledge is produced, processed, stored, retrieved and disseminated to different stakeholders in agriculture (Ansari *et al*., 2013). Africa has a huge potential of harnessing ICT for cotton development. Expert Systems – Information system, Crop

Figure 2. Field visit of African cotton scientists in India

Doctor -Decision Support System, Video Conferencing, Interactive Multimedia, Web Search Tools, Social Media, Pedia, Video Streaming and Databases are the major tools ICT uses for disseminating cotton information across the globe (Usharani, 2014). The ICT initiatives in Indian cotton extension system were web portals – Knowledge Repository based online advisories and market services, Village Knowledge Centres (VKCs), Village Resource Centres (VRCs), mobile-based advisory services and hybrid initiatives.

Web- and mobile-phone-based advisory services

The majority of African farmers own mobile phones, thus facilitating an easier connection to farmers in remote areas. The availability and accessibility of mobile phones among the farmers is higher than any other ICT tools in Africa. Mobile phones have the advantages of having many ancillary services in addition to the standard voice function, such as SMS for text messaging, email, packet switching for access to the Internet, gaming, Bluetooth, infrared, camera with a video recorder, and MMS for sending and receiving photos and videos. Viewing the modern advancements in ICT and advantages in mobile phone technology, the Central Institute for Cotton Research (CICR) in India has been executing a novel extension mechanism called 'e-Kapas network' ('e' represents electronic and 'Kapas' means cotton) since 2012 foreffective knowledge transfer among Indian cotton growers. 'e-Kapas' is a novel web-based weekly advisory service exclusively for cotton. It effectively utilises mobile phones for delivering cotton technologies to farmers, extension workers and other development workers engaged in cotton sector. Farmers interested in e-Kapas network register with their local state centres by registering their mobile numbers. Centres send regular voice SMS about cotton genotypes, production and protection technologies in their local languages to the registered growers (Usharani, 2014). Automated recorded voice advisories are relayed to registered farmers on a particular day of the week. The voice advisories tell 'what to do' and 'what not to do' in cotton cultivation on a weekly basis in nine different vernacular Indian languages. The 'e-Kapas' project is currently being funded under the Technology Mission on Cotton by the Government of India, to increase the productivity of cotton in the country. The project has been functioning in 17 university centres across the 10 cotton-growing states of the country under the leadership of CICR, Nagpur. The service became very popular, with a high demand in farmer registrations. e-kapas was found to have a strong impact on farmers and extension workers mainly because it enables technology transfer even to illiterate farmers. The initiative had great impact in intensive pest monitoring, overcoming pest epidemic situation through awareness and quick advisories provided directly to farmers in vernacular languages (Wasnik and Kranthi, 2014). The impact created by this advisory service was highly visible when India had to combat the whitefly menace in 2015, and pink bollworms in the past few years. Replicating the success of this novel mobile phone-based cotton extension model in Africa could pave the way for profitable and sustainable cotton farming in the coming years. Similarly, mobile apps play a major role in advisory services. CICR has also developed mobile apps for pest management in cotton in vernacular languages. Harnessing social media for cotton development can also be explored in Africa.

Cotton capacity-building programs

Farmer training programs can improve seed cotton yields. There is a need for proper farmer education and technology awareness programs. The programs must include the private input dealers also since majority of the farmers in Africa seek extension service from them. In India, the cotton research and development institutes conduct regular 'on farm and off farm training programs' for all stakeholders in cotton and there are exclusive training programs for women and the resource poor tribal cotton growers.

In India and Africa, agri-input dealers are the prime source of information to the farming community besides the supply of inputs and credit. There are about 282,000 practicing agri input dealers in India. However, the majority of these dealers do not have a formal agricultural education. The

Figure 3. Laboratory training of African cotton scientists in India

Figure 4. Village level interaction meetings in India

Figure 5. Village level interaction meetings in Africa

National Institute of Agricultural Extension Management (MANAGE) in India offers a one year 'Diploma in Agricultural Extension Service for Input Dealers' (DAESI) program that is aimed to build their competence in agriculture thereby enabling them to serve the farmers better and to act as para-extension professionals (www.manage.gov.in). Such a diploma course, if used by the pesticide dealers of Africa or if replicated in Africa, has the potential to create a major impact in agriculture.

Market information system

The public and private extension systems in Africa have traditionally focused their attention on diffusion of technologies and agricultural inputs. The majority of the cotton growers desperately search for information on cotton markets and prevalent prices, but in Africa and many other less-developed countries, information on cotton markets is often imperfect, incomplete and inaccessible. India has established a few successful agricultural market information services such as AGMARKNET, Krishi Marata Vahini, Reuters market light, IFFCO Kisan sanchar limited, etc., which cover cotton market information too. These approaches on diffusing market information using ICT tools may be replicated in Africa.

Inclusive Development in Extension Programs

Published literature on the role of extension in helping women to make decisions on the adoption of improved farm practices is rather thin, even though women, especially in Africa, are major producers of food crops and are active and shrewd traders in local markets (Eicher, 2007). Many policy makers continue to remain woefully ignorant and generally neglect the role of women in African farming systems. They need to recognise that a very large proportion of the family farm labour force is female, and that women are in many cases pivotal to the success of agricultural development (Roberts 1989). Hence, there is an urgent need to include women and rural youth in African extension programs. Extension programs that aim to popularise novel technologies and farm implements must stress 'method demonstrations' of women-friendly technologies — and the drudgery-reducing tools whenever possible!

Table 1. Typologies of Extension Technologies Practiced in Sub-Saharan Africa

Typologies	As compiled by Rivera (1988)	As Compiled by Axinn (1998)	As compiled by Gemo *et al.*, (2005)
Top - down	1. Conventional 2. Training and Visit (T&V) 3. University 4. Technical Innovation 5. Integrated agricultural development program	1. General agriculture 2. Commodity 3. T&V 4. Agricultural Participatory approach 5. Project approach 6. Farming Systems Research and Extension (FSR / E) 7. Cost sharing 8. Educational Institute approach	1. Public 2. Commodity 3. T&V 4. NGO 5. Private Sector 6. Farmer Field Schools (FFS)
Participatory	1. Farmer information dissemination system 2. Farming system research – extension		
Contract Farming	1. Commodity development 2. Commodity focused		
Rural Development	1. Community development 2. Integrated Rural Development Programs 3. Animation		

Compiled by Davis (2008)

Table 2. Initiatives of Modern Agricultural Extension Methods in Africa

Extension Methods	Initiatives in Africa	References
Mobile Phone-based Advisory Services	National Farmers Information Service (NAFIS) — a voice-based service in Kenya www.nafis.go.ke	Tucker and Gakuru (2009)
Web-based Advisory Services	INFONET— a web-based service promoting organic farming	www.infonetbiovision.org
	African Forum for Agricultural Advisory Services (AFAAS) — a continental platform for mutual learning and innovation among agricultural extension and advisory services providers across Africa	www.afaas-africa.org
Market Information System	Agricultural Marketing Information Service (AMIS) in Cameroon Agricultural Input Market Information and Transparency System – AMITSA (East Africa) Esoko (many countries in Africa) Infotrade Market Information Services (Uganda) Lima Links (Zambia) Livestock Market Information System – LMIS (Ethiopia) MFarm (Kenya) Nokia Life Tools (Nigeria) Regional Agriculture Trade Intelligence Network – RATIN (East Africa) Zambia National Farmers Union – ZNFU (Zambia)	USAID (2013)
Corporate Social Responsibility	Provision of extension services, input supply and capacity building in Nigeria by CSR activities of Oil & Gas, FBOs, NGOs and Manufacturing companies	Mafimisebi (2011)

Compiled by the authors

Corporate Social Responsibility

The challenges faced by the public extension system provide a space for pluralistic extension to involve various actors and service providers such as 'private agri-business companies', NGOs, and 'producer organisations' in the dissemination of agricultural technologies. Such agencies have additional manpower, knowledge, skills, and expertise, and most of them leverage corporate social responsibility (CSR) funds for overall development of agriculture. CSR is a business approach that contributes to sustainable development by delivering economic, social and environmental benefits for all stakeholders. There are many successful CSR projects on agriculture in India. For example, The Housing Development Finance Corporation (HDFC) bank in India provided assistance to farmers in soil and water conservation, water management, construction, renovation and maintenance of water-harvesting structures for improving surface and ground water availability, in partnership with the Village Development Committees. It spent about 930 million Indian rupees (US$12.9 million) for this purpose. Similarly, M/s Mahindra and Mahindra limited is operating a CSR project namely 'Krishi Mitra' in which it spends around 60 million Indian rupees (US$0.83 million) for the training of small and marginal farmers in effective farming practices including soil health, crop planning, and creating model farms with bio-dynamic farming practices to increase crop productivity. Similarly, the Cotton Corporation of India conducts demonstrations and adopts cotton-growing villages using its CSR funds. African countries could also explore CSR projects for cotton development.

Conclusion

This paper highlights the neglect and apathy toward agricultural research and technology dissemination in Africa. It needs the attention of agricultural scientists to introduce a few of the novel extension methods listed in this paper to bring about the desired changes in African cotton growers' knowledge, attitude and cultivation behaviour, which could catalyse an increase in cotton productivity. This paper recommends extension technologies such as large-scale field demonstration to improve the production in low productivity areas; FFS to impart knowledge; advisory services to swiftly transfer the required technical, market and weather information; training programs to teach skills; MIS to provide market information; women- and rural-youth-targeted programs for inclusive development; and CSR to foster public-private partnerships in technology transfer for the sustainable and profitable cotton production in Africa.

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