



# PROCEEDINGS

of the 75<sup>th</sup> Plenary Meeting



*Emerging Dynamics  
in Cotton:  
Enhancing  
Sustainability  
in the Cotton  
Value Chain*

Islamabad, Pakistan  
**October 2016**



Discover  
Natural  
Fibres  
Initiative

INTERNATIONAL COTTON ADVISORY COMMITTEE

# **PROCEEDINGS OF THE 75th PLENARY MEETING**

**“Emerging Dynamics in Cotton:  
Enhancing Sustainability**



ICAC  
Washington DC USA

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# FOREWORD

On invitation from the Ministry of Textiles Industry, Government of Pakistan, the 75th Plenary Meeting of the International Cotton Advisory Committee (ICAC) took place from October 30-November 4, 2016, 2015 in Islamabad.

The International Cotton Advisory Committee is an association of governments having an interest in the production, export, import and consumption of cotton. It is an organization designed to promote cooperation in the solution of cotton problems, particularly those of international scope and significance.

The functions of the International Cotton Advisory Committee, as defined in the Rules and Regulations, are

- To observe and keep in close touch with developments affecting the world cotton situation.
- To collect and disseminate complete, authentic, and timely statistics on world cotton production, trade, consumption, stocks and prices.
- To suggest, as and when advisable, to the governments represented, any measures the Advisory Committee considers suitable and practicable for the furtherance of international collaboration directed towards developing and maintaining a sound world cotton economy.
- To be the forum of international discussions on matters related to cotton prices.

## MEMBER GOVERNMENTS

Argentina  
Australia  
Brazil  
Burkina Faso  
Cameroon  
Chad  
Côte d'Ivoire  
Egypt  
India

Kazakhstan  
Kenya  
Korea, Rep. of  
Mali  
Mozambique  
Nigeria  
Pakistan  
Russia  
South Africa

Sudan  
Switzerland  
Taiwan  
Tanzania  
Togo  
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Uzbekistan  
Zimbabwe

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<https://www.icac.org/mtgs/Plenary/75th-Plenary/Agenda>**

# STATEMENT OF THE 75th PLENARY MEETING

## “Emerging Dynamics in Cotton: Enhancing Sustainability in the Cotton Value Chain”

1. The International Cotton Advisory Committee (ICAC) met in Islamabad, Pakistan, from October 30 to November 4, 2016 for its 75th Plenary Meeting since the establishment of the Committee in 1939. The meeting was attended by 378 persons, including representatives from 14 Members, 4 international organizations and 4 non-member countries.
2. Cotton demand exceeds production for the second consecutive year. The Secretariat reported that cotton output in 2015/16 fell due to pest attacks, competitive prices from other crops, climate change, etc., leading to a reduction in world stocks. Although inventories are still higher than usual, the excess has started to be trimmed. Cotton continues, however, to be confronted by an extremely challenging competitive environment.
3. Competition from polyester is cotton's greatest competitive threat. Presentations made during a session on inter-fiber competition highlighted the increasing share of the world fiber market occupied by polyester. The Committee was presented with preliminary findings from the Secretariat's study on the economic factors underlying the growth of polyester. These results showed that polyester had made considerable gains in the market for downstream products, such as yarn, filament, staple and apparel. This trend is due to cheaper polyester prices caused by current oil prices and underutilized industrial capacity in the polyester industry. The Committee approved a recommendation of the Private Sector Advisory Panel to broaden the terms of reference of the Secretariat's ongoing studies of the polyester market to include government support measures that have stimulated overcapacity in the polyester industry.
4. Overcoming textile industry challenges. Under this title, the representative of the International Textile Manufacturers Federation demonstrated, with examples, how the textile industry was confronting three basic challenges that also face the cotton industry, namely water, energy and the need for creative new ideas. The cotton industry was urged to take steps, by developing cotton varieties that use less water, by concentrating on reducing energy consumption in cotton gins and transportation, and by creating and applying new ideas, especially for increasing efficiency and reducing costs. One example would be to use High Volume Instrument cotton classing systems throughout the industry to replace the ancient practice of visual classing. Another presenter in the same session encouraged cotton-producing countries to convert cotton into value-added products that would create employment and other economic activity.
5. Costs of cotton production. The Secretariat presented a report based on its triennial publication on “Cost of Production of Raw Cotton”. The world average net cost of production (excluding land cost) of cotton lint was US\$1.16/kg in 2015/16.
6. Reducing the water footprint of cotton and increasing farmers' income go hand in hand. Growth in demand for water, climate change and increasing population are putting ever more pressure on the use of water in agriculture in general and in cotton cultivation in particular. The Committee received presentations from researchers and sustainability experts on ways in which to reduce the water footprint of cotton. These include application of critical assessments of the performance of irrigation systems; reduction of conveyance losses; implementation of precision agriculture; deficit irrigation; use of irrigation scheduling models; maximization of yield per unit of water used; innovative methods of irrigation, such as short furrows and laser leveling of furrows; and breeding for high-yielding drought-resistant varieties through conventional breeding and genetic engineering. Practical examples showed that the water footprint of cotton can be significantly reduced, while improving the incomes to the farmers.
7. Tackling climate change requires international collaboration. The Committee took note of the outcome of the 2015 United Nations Climate Change Conference (COP21), held in Paris, France. Many cotton-producing countries were already feeling the negative impacts of climate change. The COP21 had produced sound recommendations to contain the negative effects of climate change. An alliance of partners was necessary to achieve these objectives. However, least developed countries had their own limitations to comply with the recommendations made at the conference. Collaborative efforts were required to tackle the climate change problem. In this respect, research was necessary not only into drought conditions but also waterlogged situations that often become a problem in some cotton-growing areas.
8. Testing of SEEP sustainability indicators continues. The SEEP (Expert Panel on the Social, Environmental and Economic Performance of Cotton) reported that twelve countries are already testing in the field the sustainability indicators designed by the Panel. The SEEP aims to produce a report in 2017 to systematically capture the lessons learned from all the pilot tests. This “lessons” report will be invaluable in informing the need for refinements and improvements to the current SEEP framework for measuring sustainability. The report will constitute a solid basis for more effective testing of the application of sustainability indicators. Once this study has been finalized, SEEP will investigate options for a new round of testing.
9. Biotech cotton is under development. The cultivation of biotech cotton has changed the pest complex in many countries, so changes in pest control methods are required. Biotech cotton benefitted farmers by reducing the need for insecticide sprays and positively

impacted yields without raising the costs of fertilizers and agronomic operations. The pink bollworm in some countries has developed resistance to the earlier insect-resistant biotech technologies. The pink bollworm and the whitefly caused huge losses in yield in India and Pakistan during 2015, demanding a reversion to traditional varieties of cotton and traditional methods of insect control in some countries. Although the situation has improved in the current season, these pests still require vigilance. The dusky cotton bug and the cotton mealybug have also emerged as major pests; the whitefly and leaf curl virus in particular is becoming of greater concern. Biotech cotton resistant to the whitefly is at advanced stages of development. When commercialized, these new varieties will bring a big relief to growers. Experts reported similar progress on transgenic cotton resistant to the leaf curl disease.

10. Government support to the cotton sector falls from record levels but remains high. ICAC's annual report on government measures supporting the cotton sector shows that these reached US\$7.2 billion in 2015/16, down 30% from a record of US\$10.7 billion in 2014/15. The large stocks accumulated as a result of government intervention from 2011/12 to 2014/15 had started to be drawn down. An orderly disposal of these stocks will be a key factor in the development of the market in coming years.

11. World Trade Organization supports reduction in export subsidies and domestic support for cotton. The Committee noted that the Nairobi Ministerial Conference of the World Trade Organization, held in December 2015, had adopted a decision on cotton prohibiting export subsidies and calling for a further reduction in domestic support. The decision also calls for improvements to market access for least-developed countries (LDCs). The objective of the decision is to level the playing field for cotton exporters in the poorest countries, where the cotton sector is of vital importance. The Committee reaffirmed the importance of trade policy as a driver in the promotion of world economic growth and development, and voiced support for a multilateral trading system under the aegis of the WTO.

12. Public policies for cotton must avoid distorting the market. Presentations on public policy for the cotton sector emphasized that cotton faces a grave threat from man-made fibers, especially polyester. In order to compete, cotton producers must innovate, adopt and implement cutting edge technologies that improve productivity at lower costs. Government policies should focus on allowing prices to fluctuate with market forces, increasing funding for agricultural research, and implementing science-based regulations that allow technology development and adoption. Initiatives that discriminate against cotton not marketed under certain criteria would have a detrimental effect on cotton produced and marketed by ICAC member countries and this should be closely observed by the Secretariat since these kinds of initiatives could have adverse effects on cotton production as well as on the textile value chain.

13. Greater harmonization of phytosanitary measures affecting the international trade of cotton is required. The Committee received a report from the Private Sector Advisory Panel emphasizing the need for harmonization of phytosanitary regulations affecting the world trade of cotton. In particular, the PSAP noted that requirements for fumigation of cotton varied widely among countries and requested the Standing Committee to examine possible ways in which to reduce these differences during the coming year.

14. ICAC member governments should take steps to ensure compliance with arbitral awards. The Committee received a report from the International Cotton Association, the leading arbitral body of the world cotton trade. Cotton prices had not fluctuated much during the past season, which had resulted in a healthier trading environment and a reduction in the number of disputes needing to be settled by arbitration. However, many disputes from the 2010/11 time period, which was marked by extreme price volatility, remained unresolved because legal arbitration awards under the New York Convention, which had been signed by almost all governments, had not been honored. ICAC member governments should review the list compiled by ICA of defaulters in order to identify companies located in their respective countries and take steps to ensure that these companies comply with their obligations.

15. ICAC membership. ICAC Members were informed that the terms of accession of the European Union had been mutually agreed and were now in the process of being approved by the European Commission and the European Parliament. In addition, Bangladesh had submitted a request for membership. The terms of accession of that important cotton importer had been agreed and Bangladesh was taking the internal measures to finalize its inclusion among the members of the ICAC.

16. World Cotton Research Conference-6. The Committee received a report on the Sixth World Cotton Research Conference, which was held in Goiânia, Brazil, from 2 to 6 May, 2016. The event was attended by 471 researchers from 40 countries and five international organizations and was held under the auspices of the International Cotton Researchers Association (ICRA). The ICAC Research Associate program supported the presence of 16 researchers at the conference.

17. Topic of 2017 Technical Seminar. The Committee decided to hold the 2017 Technical Seminar on the topic of "Opportunities and Challenges for Technology Transfer in Cotton".

18. Next meeting. The Committee accepted an offer from Uzbekistan to host the 76th Plenary on dates to be determined during October 2017.

19. Appreciation for the hospitality of Pakistan. The Committee thanked the people, the Organizing Committee and the Government of Pakistan for their hospitality in serving as host of the 75th Plenary Meeting. Delegates commented very favorably on the quality of the venue and the social events, as well as the efficiency of the host country in preparing for the plenary meeting. "Pakistan Zindabad".

**ICAC****SUPPLY AND DISTRIBUTION OF COTTON****November 3, 2016**

Seasons begin on August 1

|                                                    | 2011/12                 | 2012/13                 | 2013/14<br>Est.         | 2014/15<br>Est.         | 2015/16<br>Est.         | 2016/17<br>Proj.     |
|----------------------------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|----------------------|
|                                                    | Million Metric Tons     |                         |                         |                         |                         |                      |
| <b>BEGINNING STOCKS</b>                            |                         |                         |                         |                         |                         |                      |
| <b>WORLD TOTAL</b>                                 | <b>10.333</b>           | <b>15.351</b>           | <b>18.342</b>           | <b>20.476</b>           | <b>22.242</b>           | <b>19.14</b>         |
| CHINA                                              | 2.087                   | 6.181                   | 9.607                   | 12.109                  | 12.917                  | 11.27                |
| USA                                                | 0.566                   | 0.729                   | 0.903                   | 0.651                   | 0.980                   | 1.05                 |
| <b>PRODUCTION</b>                                  |                         |                         |                         |                         |                         |                      |
| <b>WORLD TOTAL</b>                                 | <b>27.848</b>           | <b>26.785</b>           | <b>26.169</b>           | <b>26.199</b>           | <b>21.024</b>           | <b>22.40</b>         |
| INDIA                                              | 6.239                   | 6.290                   | 6.766                   | 6.562                   | 5.746                   | 5.77                 |
| CHINA                                              | 7.400                   | 7.300                   | 6.950                   | 6.500                   | 4.753                   | 4.55                 |
| USA                                                | 3.391                   | 3.770                   | 2.811                   | 3.553                   | 2.806                   | 3.49                 |
| PAKISTAN                                           | 2.311                   | 2.002                   | 2.076                   | 2.305                   | 1.514                   | 1.88                 |
| BRAZIL                                             | 1.877                   | 1.310                   | 1.734                   | 1.563                   | 1.289                   | 1.39                 |
| UZBEKISTAN                                         | 0.880                   | 1.000                   | 0.910                   | 0.885                   | 0.832                   | 0.82                 |
| OTHERS                                             | 5.750                   | 5.113                   | 4.923                   | 4.831                   | 4.084                   | 4.51                 |
| <b>CONSUMPTION</b>                                 |                         |                         |                         |                         |                         |                      |
| <b>WORLD TOTAL</b>                                 | <b>22.788</b>           | <b>23.521</b>           | <b>23.737</b>           | <b>24.199</b>           | <b>23.813</b>           | <b>23.75</b>         |
| CHINA                                              | 8.635                   | 8.290                   | 7.517                   | 7.479                   | 7.330                   | 7.18                 |
| INDIA                                              | 4.231                   | 4.731                   | 5.057                   | 5.261                   | 5.243                   | 5.25                 |
| PAKISTAN                                           | 2.121                   | 2.216                   | 2.470                   | 2.492                   | 2.268                   | 2.28                 |
| EUROPE & TURKEY                                    | 1.498                   | 1.560                   | 1.611                   | 1.692                   | 1.687                   | 1.63                 |
| VIETNAM                                            | 0.410                   | 0.492                   | 0.673                   | 0.875                   | 1.007                   | 1.14                 |
| BANGLADESH                                         | 0.700                   | 0.765                   | 0.880                   | 0.937                   | 1.077                   | 1.21                 |
| USA                                                | 0.718                   | 0.762                   | 0.773                   | 0.778                   | 0.751                   | 0.76                 |
| BRAZIL                                             | 0.897                   | 0.910                   | 0.862                   | 0.797                   | 0.733                   | 0.65                 |
| OTHERS                                             | 3.578                   | 3.795                   | 3.894                   | 3.887                   | 3.717                   | 3.66                 |
| <b>EXPORTS</b>                                     |                         |                         |                         |                         |                         |                      |
| <b>WORLD TOTAL</b>                                 | <b>9.846</b>            | <b>10.061</b>           | <b>9.010</b>            | <b>7.805</b>            | <b>7.522</b>            | <b>7.48</b>          |
| USA                                                | 2.526                   | 2.836                   | 2.293                   | 2.449                   | 1.993                   | 2.50                 |
| INDIA                                              | 2.159                   | 1.685                   | 2.014                   | 0.914                   | 1.255                   | 0.82                 |
| CFA ZONE                                           | 0.597                   | 0.828                   | 0.973                   | 0.893                   | 0.972                   | 1.07                 |
| BRAZIL                                             | 1.043                   | 0.938                   | 0.485                   | 0.851                   | 0.939                   | 0.79                 |
| UZBEKISTAN                                         | 0.550                   | 0.690                   | 0.615                   | 0.550                   | 0.544                   | 0.46                 |
| AUSTRALIA                                          | 1.010                   | 1.343                   | 1.057                   | 0.520                   | 0.613                   | 0.64                 |
| <b>IMPORTS</b>                                     |                         |                         |                         |                         |                         |                      |
| <b>WORLD TOTAL</b>                                 | <b>9.786</b>            | <b>9.788</b>            | <b>8.712</b>            | <b>7.572</b>            | <b>7.215</b>            | <b>7.48</b>          |
| CHINA                                              | 5.342                   | 4.426                   | 3.075                   | 1.804                   | 0.959                   | 0.98                 |
| VIETNAM                                            | 0.379                   | 0.517                   | 0.687                   | 0.934                   | 1.001                   | 1.15                 |
| BANGLADESH                                         | 0.680                   | 0.631                   | 0.967                   | 0.964                   | 1.108                   | 1.22                 |
| INDONESIA                                          | 0.540                   | 0.686                   | 0.651                   | 0.728                   | 0.640                   | 0.65                 |
| TURKEY                                             | 0.519                   | 0.803                   | 0.924                   | 0.800                   | 0.918                   | 0.91                 |
| <b>TRADE IMBALANCE 1/<br/>STOCKS ADJUSTMENT 2/</b> | <b>-0.060<br/>0.018</b> | <b>-0.274<br/>0.001</b> | <b>-0.298<br/>0.000</b> | <b>-0.233<br/>0.000</b> | <b>-0.307<br/>0.000</b> | <b>0.00<br/>0.00</b> |
| <b>ENDING STOCKS</b>                               |                         |                         |                         |                         |                         |                      |
| <b>WORLD TOTAL</b>                                 | <b>15.351</b>           | <b>18.342</b>           | <b>20.476</b>           | <b>22.242</b>           | <b>19.141</b>           | <b>17.78</b>         |
| CHINA                                              | 6.181                   | 9.607                   | 12.109                  | 12.917                  | 11.272                  | 9.58                 |
| USA                                                | 0.729                   | 0.903                   | 0.651                   | 0.980                   | 1.049                   | 1.28                 |
| <b>ENDING STOCKS/MILL USE (%)</b>                  |                         |                         |                         |                         |                         |                      |
| <b>WORLD-LESS-CHINA 3/</b>                         | <b>65</b>               | <b>57</b>               | <b>52</b>               | <b>56</b>               | <b>48</b>               | <b>48</b>            |
| <b>CHINA 4/</b>                                    | <b>72</b>               | <b>116</b>              | <b>161</b>              | <b>173</b>              | <b>154</b>              | <b>133</b>           |
| <b>COTLOOK A INDEX 5/</b>                          | <b>100</b>              | <b>88</b>               | <b>91</b>               | <b>71</b>               | <b>70</b>               |                      |

1/ The inclusion of linters and waste, changes in weight during transit, differences in reporting periods and measurement error account for differences between world imports and exports.

2/ Difference between calculated stocks and actual; amounts for forward seasons are anticipated.

3/ World-less-China's ending stocks divided by world-less-China's mill use, multiplied by 100.

4/ China's ending stocks divided by China's mill use, multiplied by 100.

5/ U.S. cents per pound.

**Декларация 75-го пленарного заседания  
«Возникающие движущие силы в хлопковом хозяйстве:  
развитие устойчивости в цепи хлопковой стоимости»**

1. В период с 30 октября по 4 ноября 2016 года в г.Исламабаде, Пакистан, состоялось 75-е пленарное заседание учреждённого в 1939 г. Международного консультативного комитета по хлопку (МККХ). В заседании приняли участие 378 человек, в том числе представители 14 правительств-членов, 4 международных организаций и 4 стран-нечленов.
2. **Спрос на хлопок превышает производство уже второй сезон подряд.** Секретариат сообщил, что хлопкопроизводство в 2015-16 г. снизилось из-за нападков вредителей, конкурентных цен на другие культуры, изменение климата и т.д., что привело к сокращению мировых запасов. Хотя наличные товары всё ещё больше обычного, избыток начал выравниваться. Однако хлопок продолжает испытывать влияние чрезвычайно трудной конкурентной среды.
3. **Конкуренция со стороны полиэфира – это самая большая конкурентная угроза для хлопка.** Доклады, заслушанные на одной из сессий по межволоконной конкуренции, описывали увеличивающуюся долю полиэфира на мировом волоконном рынке. Комитет заслушал предварительные результаты проведенного Секретариатом исследования об экономических факторах, влияющих на рост полиэфира. Эти результаты показывают, что полиэфир достиг большого успеха на рынке таких продуктов переработки, как пряжа, волокно, штапель и готовая одежда. Данная тенденция появилась благодаря низким ценам на полиэфир, вызванным нынешними ценами на масло, и недоиспользованными промышленными мощностями в полиэфирной индустрии. Комитет одобрил рекомендацию Консультативной группы частного сектора о расширении полномочий нынешних исследований Секретариата относительно полиэфирного рынка для включения мер правительственной поддержки, которые способствовали избыточной мощности в полиэфирной промышленности.
4. **Преодоление вызовов текстильной промышленности.** Описывая эту проблему, представитель Международной федерации изготовителей текстиля на примерах показал как текстильная промышленность справлялась с тремя основными вызовами, которые также стоят перед хлопковой отраслью, а именно вода, энергоресурсы и необходимость наличия изобретательных новых идей. Хлопковая индустрия должна предпринять определённые меры путём создания хлопковых сортов, в которых используется меньше воды, концентрирования своего внимания на процессе снижения энергопотребления в хлопковых джинах и при транспортировке, а также разработки и применения новых идей, которые особенно относятся к повышению эффективности и снижению затрат. Одним из таких примеров может служить использование систем классификации хлопка с помощью электронных измерителей качества по всем промышленным цепям с целью замены устаревшей практики визуальной классификации. Другой докладчик, выступавший в той же сессии, посоветовал странам-

хлопкопроизводителям превратить хлопок в продукцию добавленной стоимости, что приведёт к созданию рабочих мест и росту другой экономической деятельности.

**5. Стоимость хлопкопроизводства.** Секретариат представил доклад на основании своей издаваемой раз в три года публикации под названием «Стоимость производства хлопка-сырца». Мировая средняя чистая стоимость производства (за исключением стоимости земли) хлопковолокна в 2015-16 г. составляла 1,16 долларов США за кг.

**6. Уменьшение присутствия воды в хлопке и увеличение доходов фермеров идут рука об руку.** Рост спроса на воду, изменение климата и увеличение населения оказывают ещё большее давление на водопользование в сельском хозяйстве в общем и, в частности, при выращивании хлопка. Комитет заслушал доклады исследователей и экспертов в области устойчивости о методах, с помощью которых можно уменьшить присутствие воды в хлопке. Сюда входят использование важных показателей работы ирригационных систем; уменьшение потери при транспортировке; внедрение мер точности в сельском хозяйстве; нехватка ирригации; применение моделей ирригационных графиков; максимизация урожайности на единицу водопользования и такие инновационные методы ирригации, как короткие колеи и лазерное выравнивание колеи; а также селекция высокоурожайных и засухоустойчивых сортов путём обычного селекционирования и генетической инженерии. Практические методы показали, что присутствие воды в хлопке может быть существенно снижено при одновременном повышении доходов для фермеров.

**7. Серьёзное внимание к изменению климата требует международного сотрудничества.** Комитет рассмотрел результаты проведенной в 2015 г. конференции ООН по изменению климата (COP21), которая состоялась в г.Париже, Франция. Многие страны-хлопкопроизводители уже чувствовали отрицательное воздействие изменения климата. В ходе (COP21) были выработаны чёткие рекомендации относительно сдерживания отрицательных влияний изменения климата. Для достижения этих целей требовался союз нескольких партнёров. Однако менее развитые страны имеют собственные ограничения относительно внедрения рекомендаций, разработанных на этой конференции. С целью серьёзного рассмотрения проблемы изменения климата требовались совместные действия. С этой точки зрения было необходимо провести исследование не только засушливых условий, но также ситуаций, относящихся к затоплению, которые часто становятся проблемой в некоторых районах выращивания хлопка.

**8. Испытание выработанных СЭЭХ показателей устойчивости продолжается.** Представители СЭЭХ (Экспертная группа по социальным, экологическим и экономическим характеристикам хлопка) сообщили, что 12 стран уже испытывают в полевых условиях показатели устойчивости, выработанные этой группой. СЭЭХ намерена выпустить в 2017 г. доклад для систематического анализа уроков, полученных на основании экспериментальных испытаний. Такие «уроки» будут неоценимыми в деле сообщения о необходимости усовершенствований и улучшений применяемых СЭЭХ нынешних способов измерения устойчивости. Данный доклад предоставит крепкую основу для более эффективного испытания применения показателей устойчивости. По окончании этого исследования СЭЭХ рассмотрит варианты новых круговых испытаний.

**9. Развитие биотех-хлопка.** Выращивание биотех-хлопка изменило комплекс вредителей во многих странах, что требует изменить методы борьбы с вредителями. Биотех-хлопок был полезен для фермеров, так как снизил необходимость распыления инсектицидов

и положительно сказался на урожайности без увеличения стоимости удобрений и агрономических операций. В некоторых странах розовый коробчатый червь выработал сопротивляемость к ранним биотехнологиям, обладающим сопротивляемостью к вредителям. Розовый коробчатый червь и белокрылка вызвали огромные потери урожайности в Индии и Пакистане в 2015 г., что потребовало возврата к традиционным сортам хлопка и традиционным методам борьбы с вредителями в некоторых странах. Хотя в нынешнем сезоне эта ситуация улучшилась, такие вредители всё ещё требуют наличия бдительности. В качестве крупных вредителей также выступили тёмный хлопковый жук и хлопковый червец. Всё более насущную озабоченность представляют, в частности, белокрылка и вирус закручивания листьев. Обладающий сопротивляемостью к белокрылке биотех-хлопок находится на стадии ускоренного развития. После коммерциализации эти новые сорта будут представлять собой большое облегчение для хлопководов. Некоторые эксперты сообщили о подобном прогрессе, который относится к сопротивляемости трансгенного хлопка к болезни закручивания листьев.

**10. Правительственная поддержка хлопкового сектора снизилась по сравнению с рекордными уровнями, но остаётся высокой.** Ежегодный отчёт МККХ о правительственных мерах поддержки хлопкового сектора показывает, что в 2015-16 г. она достигла 7,2 миллиардов долларов США – спад на 30% против рекорда в 2014-15 г. равного 10,7 миллиардов долларов США. Крупные запасы, накопленные в результате вмешательства правительств в период с 2011-12 по 2014-15 гг., начали сокращаться. Упорядоченное избавление от этих запасов послужит ключевым фактором развития рынка в последующие годы.

**11. Всемирная торговая организация согласна с уменьшением экспортных субсидий и внутренней поддержки хлопкового хозяйства.** Комитет отметил, что прошедшая в декабре 2015 г. в Найроби министерская конференция Всемирной торговой организации приняла решение по хлопку в деле запрещения экспортных субсидий и призвала к дальнейшему уменьшению отечественной поддержки. Это решение также призывает к улучшениям к доступу на рынок для менее развитых стран (МРС). Цель такого решения заключается в выравнивании игрового поля для экспортёров хлопка в самых нищих странах, где хлопковый сектор представляет собой особую жизненную важность. Комитет ещё раз подтвердил значимость торговой политики в качестве локомотива содействия мировому экономическому росту и развитию, а также выразил поддержку многосторонней торговой системе под эгидой Всемирной торговой организации.

**12. Государственная политика по отношению к хлопковому хозяйству должна избегать искажений на рынке.** В докладах о государственной политике относительно хлопкового сектора подчёркивалось, что хлопок находится под большой угрозой со стороны искусственных волокон, особенно полиэфира. Чтобы конкурировать хлопкопроизводители должны внедрять инновации, принимать и использовать сверхсовременные технологии, улучшающие производительность при наличии низких затрат. Политика правительств должна быть направлена на то, чтобы позволить ценам меняться вместе с рыночными силами, увеличивать финансирование исследований в области сельского хозяйства и внедрять научно-обоснованные нормативы, позволяющие развивать и применять технологические разработки. Мероприятия, которые дискриминируют хлопок и не выходят на рынок в соответствии с определёнными критериями, будут иметь отрицательное воздействие на хлопок, произведённый и выпущенный на рынок странами-членами МККХ, причём это условие должно чётко

соблюдаться Секретариатом, так как подобные мероприятия могут иметь отрицательное влияние на хлопкопроизводство, а также на цепь текстильной стоимости.

**13. Требуется улучшение гармонизации фитосанитарных мер, влияющих на международную торговлю хлопком.** Комитет заслушал доклад Консультативной группы частного сектора (КГЧС), в котором подчёркивалась необходимость гармонизации фитосанитарных норм, влияющих на мировую торговлю хлопком. В частности, представители КГЧС отметили, что требования окулирования хлопка серьёзно различались в некоторых странах, а поэтому потребовали, чтобы Постоянный Комитет в будущем году рассмотрел возможные пути уменьшения таких различий.

**14. Правительства-члены МККХ должны предпринять меры для обеспечения выполнения арбитражных решений.** Комитет заслушал доклад Международной хлопковой ассоциации, которая является ведущим арбитражным органом в деле мировой торговли хлопком. В прошлом сезоне хлопковые цены не очень сильно менялись, что способствовало созданию более здоровой торговой среды и уменьшению количества споров, которые нужно было уладить арбитражным путём. Однако многие споры в сезоне 2010-11 г., который отличался резким непостоянством цен, остались неразрешёнными из-за того, что не были выполнены правовые арбитражные решения в соответствии с Нью-Йоркской конвенцией, которая была подписана почти всеми правительствами. Правительства-члены МККХ должны рассмотреть список, составленный Международной хлопковой ассоциацией и относящийся к нарушителям своих обязательств, с целью определения расположенных в их странах компаний и принятия мер для обеспечения выполнения соответствующих обязательств этими компаниями.

**15. Членство в МККХ.** Членов МККХ информировали, что условия принятия Европейского Союза в члены организации были согласованы обеими сторонами и сейчас находятся в процессе утверждения Европейской комиссией и Европейским парламентом. Кроме того, Бангладеш также представил запрос относительно членства в МККХ. Условия принятия этого важного импортёра хлопка были уже согласованы, причём Бангладеш принял соответствующие внутренние меры для окончательного решения о своём желании быть в рядах нашей организации.

**16. Всемирная шестая конференция по исследованию хлопка.** Комитет заслушал доклад о проведении 6-й Всемирной конференции по исследованию хлопка, которая прошла со 2 по 6 мая 2016 г. в г. Гояния, Бразилия. На этой конференции присутствовал 471 исследователь из 40 стран и 5 международных организаций. Она была проведена под эгидой Международной ассоциации исследователей в области хлопка (ИКРА). По разработанной МККХ программе научных исследователей была оказана поддержка участия на этой конференции 16 специалистов-исследователей.

**17. Тема технического семинара в 2017 году.** Комитет решил провести технический семинар в 2017 г. по теме «Возможности и вызовы при передаче технологии в хлопковой отрасли».

**18. Следующее заседание.** Комитет принял предложение Узбекистана о проведении там 76-го пленарного заседания. Даты заседания будут определены в октябре 2017 г.

**19. Благодарность за гостеприимство Пакистана.** Комитет поблагодарил народ, Организационный комитет и правительство Пакистана за проявленное гостеприимство при проведении 75-го пленарного заседания. Делегаты очень положительно отзывались о высоком качестве объектов для проведения пленарного заседания и социальных мероприятий, а также об эффективности принимающей страны в процессе подготовки пленарного заседания. *«Пакистан Зиндабад».*

15. **عضوية اللجنة الاستشارية الدولية للقطن (ICAC):** لقد أبلغ أعضاء اللجنة أن شروط انضمام الاتحاد الأوروبي تم الموافقة عليها بصورة متبادلة و هي الآن قيد الموافقة عليها من قبل المفوضية الأوروبية و البرلمان الأوروبي. إضافة إلى ذلك قدمت بنغلادش طلبا للانضمام إلى عضوية اللجنة، و لقد تمت الموافقة على شروط انضمام تلك البلد المستورد الهام للقطن فيما تقوم بنغلادش باتخاذ التدابير الداخلية لإكمال انخراطها مع الأعضاء الآخرين في اللجنة الاستشارية الدولية للقطن (ICAC).

16. **مؤتمر أبحاث القطن العالمي السادس:** تلقت اللجنة تقريراً عن الحلقة السادسة لمؤتمر أبحاث القطن العالمي السادس الذي عُقد في مدينة جوانيا بالبرازيل في الفترة بين 2 - 6 مايو / أيار سنة 2016. و حضر الاجتماعات 471 باحثاً من 40 بلداً و خمس منظمات دولية و قد تم انعقادها تحت رعاية رابطة باحثي القطن الدولية (ICRA) أما برنامج الباحث المشارك التابع للجنة الاستشارية الدولية للقطن (ICAC) فقد قدم الدعم لحضور ستة عشر باحث في المؤتمر.

17. **موضوع الندوة الفنية لعام 2017:** قررت اللجنة المعنية بالأبحاث الخاصة بإنتاج القطن على عقد الندوة الفنية 2017 تحت عنوان "الفرص و التحديات التي تواجه نقل التكنولوجيا للقطن".

18. **اجتماعات الجمعية العمومية القادمة:** قبلت اللجنة الاستشارية الدولية للقطن (ICAC) عرضاً من أوزباكستان لاستضافة الجمعية العمومية السادسة و السبعين في فترة سيتم تحديدها لانعقاد الاجتماعات في شهر أكتوبر / تشرين الأول 2017.

19. **تقدير لحسن ضيافة باكستان:** تقدمت اللجنة الاستشارية الدولية للقطن (ICAC) بشكرها إلى الشعب الباكستاني و اللجنة المنظمة و حكومة باكستان لحسن الضيافة التي أبدوها لدى استضافتهم اجتماعات الجمعية العمومية الخامسة و السبعين. كذلك أثنت الوفود بصورة إيجابية عالية على جودة المكان و الفعاليات الاجتماعية بالإضافة إلى كفاءة البلد المضيف في التحضير لهذه الاجتماعات العمومية. "باكستان زيندباد".

الجديدة ستجلب درجة عالية من الارتياح لدى المزارعين. هذا و قد بلغ الخبراء عن تقدم مماثل في القطن الناتج عن تكنولوجيا نقل الجينات المقاوم لأمراض تجعد الأوراق.

10. **الدعم الحكومي لقطاع القطن يتراجع عن المستويات القياسية و لكنه يبقى عاليا:** جاء في تقرير الهيئة الاستشارية الدولية للقطن (ICAC) عن التدابير التي تتخذها الحكومات لدعم قطاع القطن أن ذلك الدعم بلغ 7,2 مليار دولار في الموسم 2016 / 2015 مسجلا انخفاضا بنسبة 30 % عن المستوى القياسي الذي بلغ 10,7 مليار دولار في الموسم 2015 / 2014 . و نتيجة لتدخل الحكومة بحدى بالسحب من المخزون الذي تراكم في المواسم من 2011 / 2012 إلى 2014 / 2015. و سيكون التخلص المنتظم من هذه المخزونات العامل الرئيسي في تنمية السوق في السنوات القادمة.

11. **منظمة التجارة العالمية تدعم تخفيض الدعم للصادرات و المساعدة المحلية للقطن:** ذكرت اللجنة أن مؤتمر نيروبي الوزاري لمنظمة التجارة العالمية الذي عقد في شهر ديسمبر / كانون الأول سنة 2015 تبنى قرارا بشأن القطن يحظر تقديم الدعم للصادرات و يدعو إلى مزيد من التخفيض في المساعدة المحلية. كما أن القرار دعا أيضا إلى تحسينات في مجال النفاذ للسوق للدول الأقل نمواً. و الهدف من هذا القرار هو تكافؤ الفرص لمصدري القطن في البلدان الأكثر فقرا حيث قطاع القطن يتحلى بأهمية بالغة. و لقد أعادت اللجنة التأكيد على أهمية السياسات التجارية كونها عجلة دفع باتجاه تشجيع النمو الاقتصادي العالمي و التطوير و أعربت عن دعمها لنظام متعدد الأطراف للمتاجرة تحت رعاية منظمة التجارة الدولية.

12. **السياسات العامة الخاصة بالقطن يجب أن تتفادى تشويه السوق:** المحاضرات التي تناولت السياسات العامة لقطاع القطن أكدت على أن القطن يواجه تهديدا خطيرا من الألياف من صنع الإنسان خاصة من البولستر. و لكي يتمكن مزارعو القطن من التنافس ينبغي عليهم أن يبتكروا و يتكيفوا و ينفذوا التكنولوجيات الأكثر حداثة التي من شأنها تحسين الإنتاجية بكلفة أقل. كذلك ينبغي أن تركز السياسات الحكومية على السماح بتذبذب الأسعار بحسب ما تمليه قوى السوق، و أن تزيد من التمويل للبحوث الزراعية و تنفيذ لوائح تنظيمية تقوم على أساس علمي من شأنها السماح بتطوير التكنولوجيا و اعتمادها. أما المبادرات التي تميز ضد القطن الذي لا يحمل علامة حسب معايير معينة فانها تتسبب بآثار ضارة للقطن الذي تنتجه البلدان الأعضاء في اللجنة الاستشارية الدولية للقطن (ICAC) لذلك ينبغي على السكرتارية أن تراقب هذا الأمر عن كثب ذلك أن مثل تلك الأنواع من المبادرات يمكن أن يكون لها آثار عكسية على إنتاج القطن أيضا و على سلسلة القيمة للمنسوجات.

13. **المطلوب هو انسجام أكبر في تدابير الصحة النباتية التي تؤثر على تجارة القطن الدولية:** تلقت اللجنة تقريراً من هيئة القطاع الخاص الاستشارية (PSAP) يؤكد على الحاجة إلى انسجام اللوائح التنظيمية الخاصة بصحة النبات و التي تؤثر على تجارة القطن العالمية. و بشكل خاص ذكرت الهيئة أن متطلبات تعقيم القطن بالتبخير تختلف اختلافا كبيرا بين البلدان و طلبت من اللجنة الدائمة فحص الطرق الممكنة التي من شأنها تقليل التباينات خلال السنة القادمة.

14. **ينبغي على الحكومات الأعضاء في اللجنة الاستشارية الدولية للقطن (ICAC) اتخاذ خطوات لضمان الالتزام بقرارات التحكيم:** تلقت اللجنة تقريراً من رابطة القطن الدولية و هي جهاز التحكيم الرئيسي في تجارة القطن العالمية يذكر أن أسعار القطن لم تتذبذب كثيرا في الموسم الماضي الأمر الذي نتج عنه بيئة أنجع للتجار و تخفيض عدد النزاعات التي تحتاج إلى التسوية عن طريق التحكيم، غير أن كثيرا من النزاعات منذ سنة 2010 / 2011 و التي شهدت تقلبات حادة في الأسعار ظلت دون تسوية لأن قرارات التحكيم القانونية في ظل ميثاق نيويورك الذي تم توقيعه من قبل كل الحكومات تقريبا ظلت بدون تنفيذ. و ينبغي على الحكومات الأعضاء في اللجنة الاستشارية الدولية للقطن أن تراجع قائمة المتخلفين التي وضعتها رابطة القطن الدولية بأسماء الشركات في كل واحدة من البلدان المعنية و اتخاذ الخطوات لضمان تقيّد تلك الشركات بالتزاماتها.

5. **تكاليف إنتاج القطن:** قدمت السكرتارية تقريراً مبنياً على أساس نشرتها التي تصدرها كل ثلاث سنوات حول "تكاليف إنتاج القطن الخام"، ذكرت فيه أن المعدل العالمي لصافي تكلفة إنتاج شعيرات القطن القابلة للحلج باستثناء تكلفة الأراضي كانت 1،16 دولاراً للكيلوغرام الواحد في موسم 2015/2016.
6. **تقليل البصمة المائية للقطن وزيادة مداخل المزارعين تسير بدأً بـ:** إن ارتفاع الطلب على الماء و تغير المناخ و الازدياد السكاني أضافوا أكثر من أي وقت مضى إلى الضغط على استخدام المياه في الزراعة بشكل عام و في زراعة القطن بشكل خاص. و قد استمعت السكرتارية إلى محاضرات من باحثين و خبراء متخصصين في مجال الاستدامة حول الطرق التي من شأنها تقليل البصمة المائية للقطن. و تشمل هذه المحاضرات تطبيقات لتنقيحات حرجة لأداء أنظمة الري و لتخفيض الخسائر أثناء نقل المياه و تطبيق الزراعة الدقيقة و لتتقيد الري و استخدام نماذج لجدولة أوقات الري و زيادة الغلال إلى أعلى درجة لكل وحدة مياه مستخدمة، و أساليب ابتداعية للري مثل الزراعة في أخاديد قصيرة و تسويتها بالليزر و تربية أصناف ذات غلة عالية تكون مقاومة للجفاف و ذلك عن طريق أساليب التربية التقليدية و الهندسة الوراثية. هذا و قد أظهرت الأمثلة العملية بأنه من الممكن تقليلها بشكل كبير فيما يجري تحسين المداخل للمزارعين.
7. **معالجة تغير المناخ تتطلب تعاوناً دولياً:** أخذت اللجنة علماً بالنتائج التي تمخضت عن مؤتمر الأمم المتحدة الخاص بالتغير المناخي (مؤتمر الأطراف 21) لسنة 2015 الذي عقد في باريس في فرنسا. كثير من البلدان المنتجة للقطن كانت بالفعل تشعر بالآثار السلبية للتغير المناخي. و قد أنتج مؤتمر الأطراف 21 توصيات سليمة من شأنها احتواء / تخفيض عملية التغير المناخي بحيث كان من الضروري تشكيل تحالف من شركاء بغية تحقيق تلك الغايات. غير أن البلدان الأقل نمواً عندها ما يخصها من الحدوديات في الالتزام بالتوصيات التي صدرت عن المؤتمر لما يتطلب جهوداً تعاونية لمعالجة مشكلة التغير المناخي. و في هذا المجال لم تكن الأبحاث ضرورية في ظروف الجفاف فقط و لكن حالات التشبع بالمياه أيضاً تصبح غالباً مشكلة في المساحات التي يزرع فيها القطن.
8. **اختيار استدامة مؤشرات الأداء الاجتماعي و البيئي و الاقتصادي للقطن تستمر (SEEP):** ذكرت هيئة الخبراء المعنية بالأداء الاجتماعي و البيئي و الاقتصادي للقطن (SEEP) أن اثني عشر بلداً تقوم فعلاً باختبار مؤشرات حقلية للاستدامة صممتها الهيئة. هذا و تهدف الهيئة إلى إصدار تقرير في سنة 2017 لاستخلاص الدروس المستفادة من كل الاختبارات الريادية بصورة منهجية. و سيكون تقرير الدروس هذا ذا قيمة لا يمكن تحديدها بالإفصاح عن التنقيحات و التحسينات على الإطار الذي تستخدمه الهيئة المعنية بالأداء الاجتماعي و البيئي و الاقتصاد للقطن (SEEP) في قياس قابلية الإدامة. و سيشكل التقرير أساساً ثابتاً للقيام بالمزيد من الاختبارات على تطبيق مؤشرات الاستدامة. و متى اكتملت هذه الدراسة ستقوم الهيئة بالتحقيق في الخيارات لإجراء جولة جديدة من الاختبارات.
9. **القطن البيوتك (المعدل وراثياً) من أجل مقاومة الآفات الناشئة هي قيد التطوير:** غيرت زراعة قطن البيوتيك عقدة الآفات في العديد من البلدان، لذلك من المطلوب تنفيذ تغير في أساليب السيطرة عليها. و لقد أفاد قطن البيوتيك المزارعين و ذلك بتقليل الحاجة لرش مبيدات الحشرات و أثر بصورة إيجابية على الغلة بدون رفع تكلفة الأسمدة و العمليات الزراعية. و الدودة الوردية التي تضرب لوزة القطن في بعض البلدان طورت مقاومة ضد تكنولوجيات مكافحة الحشرات من الجيل الأول للبيوتيك و لهذا تسببت هذه الدودة مع الذبابة البيضاء بخسائر فادحة في الغلة في كل من الهند و باكستان في سنة 2015 الأمر الذي تطلب العدول عن استعمال نوعيات القطن التقليدية و كذلك الأساليب التقليدية للسيطرة على الحشرات في بعض البلدان. و بالرغم من أن الحالة تحسنت في الموسم الحالي ما زال الحرص ضرورياً فيما يخص هذه الآفات، ذلك أن الخنفساء السمراء المغبرة (Dusky Cotton Bug) و البقعة الدقيقة (Mealybug) برزتا كآفتين رئيسيتين. كذلك الذبابة البيضاء و فيروس تجعد ورقة القطن بشكل خاص كلها أصبحت القلق الأكبر. و قطن البيوتيك المقاوم للذبابة البيضاء وصل إلى مراحل متقدمة في التطور. و عندما تدخل المجال التجاري فإن هذه النوعيات

## البيان الختامي

### للجلسة العمومية الخامسة والسبعين

### "الديناميكيات الناشئة في القطن: تعزيز قدرة الاستدامة في سلسلة القيمة للقطن"

1. اجتمعت اللجنة الاستشارية الدولية للقطن (ICAC) في مدينة إسلام آباد في باكستان في الفترة بين الثلاثين من شهر أكتوبر / تشرين الأول إلى الرابع من شهر نوفمبر / تشرين الثاني سنة 2016 في جلستها العمومية الخامسة والسبعين منذ إنشاء اللجنة في سنة 1939. وقد حضر الاجتماعات 378 شخصا من بينهم ممثلون من 14 بلد من الأعضاء و 4 منظمات دولية و 4 بلدان ليست أعضاء.
2. **الطلب على القطن يزداد عن الإنتاج للسنة الثانية على التوالي:** ذكرت الأمانة العامة أن إنتاج القطن في موسم 2016 / 2015 هبط بصورة كبيرة بسبب غزو الحشرات الضارة و الأسعار التنافسية و تغير المناخ الخ... مما أدى إلى انخفاض في المخزون العالمي. و بالرغم من أن المخزون لا يزال أعلى من المعتاد، إلا أن الزائد بدأ يقلص علما بأن القطن يظل يواجه بيئة فيها تحديات تنافسية.
3. **المنافسة من البوليستر هي التهديد الأكبر الذي يواجهه القطن:** أبرزت العروض التي قُدمت حول التنافس بين الألياف النصيب المتزايد الذي يحظى به البوليستر في سوق الألياف العالمي. و قد رُفعت للجنة نتائج أولية من دراسة أجرتها السكرتارية على العوامل المؤدية لنمو البوليستر بيّنت أن البوليستر حقق مكاسب كبيرة في السوق للمنتجات في المراحل الأولية مثل الغزل و الخيوط و الملابس الجاهزة. و السبب في هذا الاتجاه يعود بشكل خاص إلى أسعار البوليستر الرخيصة بسبب أسعار النفط الحالية و القدرة الصناعية غير المستغلة في صناعة البوليستر. و لقد وافقت اللجنة على توصية من هيئة القطاع الخاص الاستشارية (PSAP) تدعو إلى توسيع اختصاصات الدراسات الحالية التي تجريها السكرتارية على سوق البوليستر لتشمل إجراءات الدعم الحكومي التي عززت ازدياد الطاقة في صناعة البوليستر.
4. **التغلب على التحديات التي تواجهها صناعة المنسوجات:** قدم ممثل عن الرابطة الدولية لمصنعي المنسوجات عرضا مدعوما بالأمثلة بيّن فيه كيف كانت صناعة المنسوجات تواجه التحديات الأساسية الثلاثة و التي أيضا تواجه صناعة القطن ألا و هي: المياه، و الطاقة و الحاجة إلى أفكار ابتكارية جديدة. و حثّ الممثل صناعة القطن على اتخاذ خطوات مماثلة عن طريق تطوير سلاسل من القطن تستخدم كميات أقل من المياه و بالتركيز على تخفيض استهلاك الطاقة في محالج القطن و في النقل و بابتكار أساليب ابتكارية و تطبيق أفكار جديدة خاصة في زيادة الكفاءة في تقليل التكاليف. و ذكر أن واحدا من الأمثلة على ذلك يكمن في استخدام حجم أكبر في أنظمة تصنيف القطن آليا في الصناعة بأكملها لتحل محل الممارسات القديمة في التصنيف النظري. كذلك شجّع محاضر آخر في نفس الجلسة البلدان المنتجة للقطن على تحويل القطن إلى منتج ذا قيمة إضافية من شأنها خلق العمالة و توليد نشاطات اقتصادية أخرى.

# Inaugural Session

9:00 hr. Monday, October 31, 2016

In the Chair: Mr. Hassan Iqbal, Secretary, Ministry of Textile Industry, Government of Pakistan

At the beginning of the session the national anthem of Pakistan was played followed by a recitation from the Holy Koran.

Mr. Hassan Iqbal, Secretary, Ministry of Textile Industry, Government of Pakistan presented the welcome address.

He said that it was a great pleasure to welcome all participants to the 75<sup>th</sup> plenary meeting of the International Cotton Advisory Committee of Islamabad. After the 18<sup>th</sup> constitutional amendment, the Ministry of Textile Industry had taken the administrative control of cotton-related activities. The Ministry realized that Pakistan is an important member state of ICAC and decided to host a plenary meeting and invited ICAC in 2014 with the approval of the Prime Minister of Pakistan. The government expresses enthusiasm and interest for holding this meeting.

Mr. Iqbal was personally involved in each of the details with his hard-working team to ensure the safe arrival of guests and settling them in their hotels, and they had tried their best to facilitate all arrangements at airports, hotels and at the venue. However he admitted that nothing was perfect in the material world, and felt no embarrassment in apologizing for any inconveniences caused or shortcomings. At latest count, 130 delegates are attending this plenary meeting from 25 cotton-producing or -trading countries of five continents, joined by over 270 local delegates representing academia, research, extension, growers, industry and trade bodies.

The organizers have tried to relax delegates' days by soothing evenings, cultural shows and traditional dinners. Rich heritage and diverse cultures cannot be covered in the spare time during this 4-day event, however glimpses of Islamabad and the Gandhara civilization at Taxila would be sufficient to attract participants for a detailed visit in future.

He thanked the Finance Minister and the Minister for National Food Security and Research for gracing this occasion and welcomed participants once again to the plenary meeting, and wished them good luck.

Mr. José Sette, Executive Director of ICAC presented welcome remarks. He thanked distinguished delegates, observers and guests for the opportunity to address this 75<sup>th</sup> Plenary Meeting of the International Cotton Advisory Committee since 1939. The International Cotton Advisory Committee was honored to hold its Plenary Meeting in Islamabad. The history of cotton is inextricably linked to the subcontinent. Some of the earliest traces of cotton cultivation and

domestication have been found in the region that today is Pakistan. Pakistan's semi-arid climate is well suited to the demands of this small plant that is used to make fabrics that clothe millions of people all over the world.

So, it comes as no surprise that today cotton is Pakistan's most important crop and the backbone of its industry. Pakistan is also a major player on the world cotton scene. Its annual production averages around two million tons, making it the fourth largest producer in the world. The harvest is almost all consumed domestically by Pakistan's thriving textile industry, which employs more than 40% of the country's industrial work force and accounts for more than 50% of export earnings.

The long history and importance of cotton in Pakistan make it a natural choice to host the ICAC's Plenary Meeting. Fittingly, Pakistan took steps to become a member of the ICAC in July 1948, almost immediately after becoming an independent country. Shortly afterwards, in 1951, Pakistan hosted an ICAC Plenary Meeting for the first and only time. Therefore, a return to Pakistan is long overdue and ICAC members enthusiastically accepted the generous offer of the Pakistani government to host the 75<sup>th</sup> edition of our annual event.

Plenary meetings of the ICAC are a forum for the discussion of international issues of importance to the world cotton industry, and provide opportunities for industry and government leaders from producing, consuming and trading countries to consult on matters of mutual concern.

ICAC members are grateful to Pakistan for hosting the most important event of the world cotton calendar and look forward to a fruitful and productive week of discussions, as well as to enjoy the warmth and hospitality of the Pakistani people.

Mr. Ishaq Dar, Minister Finance presented the keynote address. On behalf of Prime Minister and Government of Pakistan he welcomed all participants at 75th Plenary Meeting of International Cotton Advisory Committee in Islamabad, Pakistan. It was indeed a privilege for the Government to host this Plenary Meeting after 65 years. Over this period of time Pakistan had moved forward and become the fourth-largest cotton producer, third-largest cotton consumer and second-largest cotton yarn exporter in the world. Very few countries have complete cotton value chain from cotton cultivation to finished products. The majority of countries either have an upstream or downstream value chain. Pakistan is one of the few countries that have the entire textile value chain and is proud of this asset.

The Government is committed to undertake all

possible measures to introduce the latest agriculture technologies and in this backdrop has already carried out important amendments in the Seed Act of 1976. Further, a Plant Breeders Right Bill would soon be placed in the Upper House of the Parliament. Moreover, the Government has already provided various facilitations to farmers, namely: direct support to smallholder farmers of rice and cotton having land less than 12.5 acres; significant reductions in the price of urea and DAP; enhancement in the targeting of agriculture credit; reductions in mark-ups of agriculture credit; a Credit Guarantee Scheme for small farmers; concessional electricity tariffs, all of which made foreign investment in Pakistan more attractive; and moreover the availability of essential raw materials had been ensured. Such steps would increase per acre yield of cotton, which has been stagnant.

Under the leadership of Prime Minister Muhammad Nawaz Sharif, the GDP growth has been 4.71%, which is the highest in the last eight years. In last three years per capita income has increased by 17% in dollar terms. Average inflation in last three years has been less than 3%, whereas previously it had been around 12%. Meanwhile, revenues have increased to 10.5% of GDP compared to 8.5% previously. The fiscal deficit has been reduced to 4.3%, compared with 8.2% three years ago. The State Bank Policy rates have been lowered, the exchange rate has stabilized and foreign reserves have increased to US\$24 billion.

The country is in process of implementing the China-Pakistan Economic Corridor (CPEC), which has been rightly pointed out by the international world as a game-changer. The CPEC would not only change the economic conditions of Pakistan but also bring prosperity to the whole region. The CPEC includes communication, industrial development, energy projects, agriculture, trade, and transfer of technology. The work is in progress and by 2018, the world would see a marked difference, especially with regard to the first target, which is cheap electricity.

Due to the recession in developed countries, exports have fallen slightly. To sustain exports, the Government has taken historic steps such as: reduction in export finance rate to historically low 3%; long-term financing loans for 3-10 years only at 5%; duty-free imports of textile machinery; and importantly, five export-oriented sectors (including textiles) are zero-rated for sales tax.

The manifesto of the government is to create employment and it is expected that industrial and agriculture sectors will provide the platform to generate employment through public private partnerships. In this regard, the textile value chain based on cotton, which is the lynchpin of the economy, is a priority.

In this recession scenario only those textile-producing countries that adapt to the changing trade environment through a continuous process of restructuring and modernization, reduction of inefficiencies, development of new products and consolidation, particularly in the value-added sub-sectors, will survive. This would create volume, curb inefficiencies and reduce the cost of doing business in order to make the textile and clothing industries competitive in the global markets. Countries like Pakistan, which have a complete textile value chain, have the comparative advantage of homegrown cotton; however, at the same time, they have the responsibility to conserve resources for food security. The ICAC meeting provides platform to discuss such issues and this meeting's topic i.e. Enhancing Sustainability in Cotton Value Chain, would give policy-makers many ideas and policy guidelines.

He expressed the appreciation of the Government of Pakistan, for visitors to this beautiful country for this important 75th Plenary Meeting of the International Cotton Advisory Committee hosted by Government of Pakistan in Islamabad.

Ms. Kavita Gupta, delegate of India, the host of the 74th Plenary Meeting, presented welcoming remarks on behalf of all delegates. She thanked the organizing committee of Pakistan for hosting the 75th Plenary Meeting of the ICAC. The deliberations on the emerging dynamics in cotton and on enhancing sustainability in the cotton value chain are important in the present cotton scenario all over the world. It had been a great pleasure for India to host the 74th Plenary Meeting with deliberations around the theme "From farm to fabric: The many faces of cotton". All participants had been enriched by the excellent exchange of information and views from all participating countries. India also got an opportunity to showcase its great civilization, rich culture, history and heritage. The 75th Plenary Meeting hosted by Pakistan would surely be an equally enriching experience and would throw light on the latest issues being faced by the cotton textile industry in the world. On behalf of all delegates she welcomed all participants and wished for meaningful discussion on cotton issues, including sustaining cotton growth, emerging dynamics and reducing contamination in cotton. All these issues called for urgent attention. She thanked the organizing committee and the people of Pakistan for their hospitality.

The CHAIR introduced Ms. Claudia Fontana Tobiassen, the Second Vice Chair of the Standing Committee to present a report on behalf of the Chair of the Standing Committee.

Ms. Fontana Tobiassen thanked the Government of the Islamic Republic of Pakistan for hosting the 75th Plenary Meeting of the ICAC and congratulated Pakistan and all members of the Organizing Committee for their hard work. The delegates on the Standing Committee appreciated the Secretariat's role in providing and

disseminating precise, impartial and timely data and analysis on the cotton sector which serves as a useful resource for agencies around the world. During this Plenary, the ICAC Secretariat would be presenting its triennial publication on *Cost of Production of Raw Cotton*, as well the preliminary results of a study on inter-fiber competition. The Standing Committee also appreciated the support extended by the ICAC Secretariat towards the successful organization of the World Cotton Research Conference-6 in Brazil in May 2016. The information on government measures compiled by ICAC is an important reference and highly valued by the organization's members and other stakeholders in the cotton value chain.

Standing Committee members also welcomed the inputs provided by the various advisory bodies of the ICAC. The Expert Panel on Social, Environmental and Economic Performance of Cotton Production (SEEP) is now building on its report on indicators for the measurement of the sustainability of cotton production all over the world by looking at practical applications of these parameters in the field. The results of this work were awaited with interest. The Task Force on Commercial Standardization of Instrument Testing of Cotton (CSITC) continued its outstanding work in promoting the use of high volume instrument testing methods and procedures throughout the cotton value chain. The Private Sector Advisory Panel (PSAP) played a key role in keeping ICAC informed of important issues involving governments and the private sector. She thanked all members of these advisory bodies for selflessly dedicating their time to assisting ICAC.

Ms. Fontana Tobiassen reported that an important challenge faced by the Standing Committee in the three years since the 72nd Plenary Meeting in Cartagena had been the establishment of the terms of accession of the European Union (EU) to the ICAC. In view of the complexity of the issues involved and the time required to discuss them in depth, the Standing Committee decided to create a Task Force on European Union Membership (TFEU) for analysis of the necessary changes to the Rules and Regulations. After the Standing Committee reached a consensus on broad principles, a Drafting Group was formed to prepare a proposal to amend the Rules and Regulations. This proposal was duly approved, first by the Standing Committee and then by ICAC members during the 74th Plenary. The approval of the new Rules and Regulations opened the way for membership of the EU. The outcome of the work the Drafting Group was the "Statement on the Accession of the EU to the ICAC", which was approved in March of the current year. These transitional arrangements have now been submitted to the European Commission, and are moving through a lengthy and complex approval system, which requires final approval by the European Parliament. All ICAC members look forward to the active participation

of the EU in the work of the ICAC in the future.

Broadening membership in the ICAC is a permanent concern of the Standing Committee. Delegates therefore received with enthusiasm the request for accession put forward by Bangladesh in July. At the 543rd meeting of the Standing Committee, delegates approved the terms of accession of Bangladesh agreeing that Bangladesh would become an ICAC member.

The Standing Committee fulfilled its customary role in approving the budget and work program of the Secretariat. With respect to budgetary matters, the Standing Committee has repeatedly stressed its concern with late payment of assessments by some ICAC member countries. The prompt payment of assessments is a precondition for the sound management of the ICAC and it is important that all Members comply with their financial obligations to the organization.

In addition, the Standing Committee considered the status of the Executive Director, whose initial mandate expires at the end of 2016. The Executive Director, Mr. José Sette, submitted a request for a two-year extension of his contract, which was considered by the Standing Committee at its 543rd and 544th meetings. After due deliberation, delegates of the Standing Committee agreed to recommend to the Plenary a two-year extension of contract for the Executive Director so that he can build on his accomplishments during his initial term in office.

During its 544th Meeting, the Standing Committee unanimously endorsed the nominations of Ms. Reenat Sandhu, Minister Commerce, Embassy of India, as Chair, Ms. Claudia Fontana Tobiassen, First Secretary (Trade and Commercial Affairs), Embassy of Switzerland, as First Vice Chair and Mr. Ali Tahir, Minister (Trade), Embassy of Pakistan, as Second Vice Chair of the Standing Committee for the next year.

Ms. Fontana Tobiassen thanked all her fellow Standing Committee members in Washington for their hard work, professionalism and commitment to the ICAC during the past year. She expressed her profound gratitude to the Government of Pakistan and the Organizing Committee for the excellent arrangements made for the 75th Plenary Meeting. The Report of the Chairperson of the Standing Committee is a statement of the meeting.

The CHAIR introduced Mr. José Sette to give his report as Executive Director.

The Executive Director reported that important changes had occurred in the structure of world supply and demand. After five years of greater production than consumption, cotton output in 2015/16 fell considerably, leading to a significant reduction in world stocks, nonetheless, cotton continues to be confronted by an extremely challenging competitive environment. At the end of the 2014/15, world stocks stood at a record 22.3 million tons and the global stock-to-use ratio

was 0.92, the highest level on record. Although the global stock-to-use ratio consequently fell from 0.92 in 2014/15 to 0.82 in 2015/16, world inventories continued to be at extremely high levels in historical terms. An orderly reduction of these stocks will continue to be a key factor in the healthy development of the cotton market in coming years. Meanwhile, the fall in prices in recent seasons have led to increased support of cotton sectors by governments all over the world. ICAC's report on "Production and Trade Policies Affecting the Cotton Industry" showed that government support for cotton fell to \$7.2 billion in 2015/16, down 30% from the record of \$10.6 billion established in 2014/15.

Prices had fallen considerably in the last two seasons. As a result, cotton became less competitive in comparison with competing fibers and the decline in its share of the world fiber market accelerated. Overall, 2015/16 may come to be considered a season of transition and the beginning of a long-term drawdown in stocks. However, this adjustment comes at a cost. In 2015/16, the total value of the entire cotton crop was roughly US\$33 billion, the lowest in eleven years.

Meanwhile, much remained to be done in terms of building a more positive image of cotton among consumers. The ICAC would continue to work closely with the International Forum for Cotton Promotion (IFCP) to raise awareness about existing promotion initiatives, to collaborate with national associations and to encourage increased consumer demand for cotton through domestically focused and domestically funded national cotton demand enhancement programs that can be implemented and replicated around the world. In order to adapt to a changing market, the work of the IFCP was currently being restructured, so that it can continue to provide the services required by its membership.

The ICAC considered the dissemination of information on research to be a top priority. Other activities related to production research that are organized, sponsored or otherwise supported by the ICAC include the ICAC Researcher of the Year Award and the World Cotton Research Conference. The ICAC had provided important support to the 6<sup>th</sup> World Cotton Research Conference, which was held in Goiânia, Brazil, from May 2 to 6, 2016.

In recent years, awareness of the need for sustainable practices throughout agricultural value chains has been growing. In response, ICAC members established an Expert Panel on the Social Environmental and Economic Performance of Cotton Production (SEEP) in 2006. The SEEP provided valuable support to ICAC's objective of promoting the sustainability of the world cotton sector.

Over the years, the PSAP had provided valuable inputs to the ICAC, especially in issues relating to improvements in the efficiency of the cotton

trade. The PSAP served as a means for communicating the concerns of the private sector to ICAC members and enhancing the relevance of the ICAC to the cotton value chain. As a result of a recommendation made in last year's PSAP meeting, ICAC and its partners had begun an in-depth report on the competition faced by cotton from polyester. The report was expected to be concluded sometime in 2017.

The ICAC's Task Force on Commercial Standardization of Instrument Testing of Cotton (CSITC), established in 2003, is responsible for developing mechanisms to standardize High Volume Instrument (HVI) results on an international basis, so as to promote a level playing field and increase the confidence of the cotton industry in the reliability of test results. This program has been extremely successful, with more than one hundred laboratories now participating on a regular basis. The results of the Round Trials have shown significant improvements in the harmonization of results among laboratories, which gives users of HVI results even greater confidence in their consistency.

The ICAC plays a distinctive role by helping governments to create an enabling environment for the world cotton sector. Our organization fulfills its mission through four main activities: to serve as a forum for the development of policies and solutions to strengthen the cotton value chain; to enhance the transparency of the market and enable economic decisions to be taken on the basis of precise and timely data; to encourage the development and dissemination of knowledge; and to promote the sustainability of cotton.

Going forward, the success of the ICAC as a space for the discussion and development of cotton policies is closely linked to the amplitude of its membership. At this time, the terms of accession of the EU are going through the lengthy and bureaucratic process of approval within various EU bodies. He expressed his confidence that the EU will take its place among ICAC Members in the near future. In addition to the European Union, the ICAC would soon welcome another important new member: Bangladesh. The international prominence of the textile industry of Bangladesh had grown in recent years and that country has become one of the largest importers of cotton in the world. The accession of Bangladesh would make the ICAC even stronger and more representative of the world of cotton.

The Executive Director thanked to all the delegates serving on the Standing Committee, who always gave their generous support and made valuable contributions to the work of the ICAC. The Executive Director expressed his pleasure and privilege to work with the highly qualified members of the ICAC Secretariat, who are always supportive. He was gratified to collaborate with such diverse group of talented professionals who are committed to achieving the organization's objectives. The Secretariat would continue to provide the excellent services and innovative

thinking that members have come to expect.

This 75<sup>th</sup> Plenary Meeting of the ICAC would examine important topics for the future of cotton, such as: reducing contamination; improving ginning practices; defining the optimum role of government in the production and trade of cotton; enhancing efficiency in the cotton value chain; making more efficient use of water in the production process; and exploring the ways in which the textile industry views cotton. Participants would also receive information from the Secretariat on the latest supply and demand outlook, as well as government support measures that affect the cotton sector. He expressed hope that the numerous observers who honored ICAC with their presence would take away useful knowledge that will help persuade those governments that are not yet part of ICAC of the benefits of membership in our organization, thereby broadening even further the influence of the organization. Membership in the ICAC was a useful and cost-effective way to integrate countries into the world cotton sector.

The Executive Director reflected back to his first participation in an ICAC Plenary, the 72<sup>nd</sup> edition, which was held in Cartagena. Now, three years later, he is proud of all that has been accomplished during this interval, especially the coming accession of the European Union and Bangladesh, which would broaden the membership of the ICAC in two of the world's most important markets for cotton. However, much remains to be done. By the end of this week, he hopes that Members will have seen fit to privilege him by extending his contract, so that all can continue to work together in order to strengthen cotton, a product that is vital to the welfare of millions of people all over the world. The Report of the Executive Director is a statement of the meeting.

The Executive Director presented recognition for the work of Dr. Rafiq Chaudhry, Head of Technical Information Section. He said that during our Plenary Meeting, we usually make the presentation of the ICAC Researcher of the Year Award. Unfortunately, this year's winner, Dr. Jack McCarty Jr., of the USA, could not be present in Pakistan. He received his award in front of a distinguished audience of his peers during the 6<sup>th</sup> World Cotton Research Conference, which had been held earlier this year in Brazil.

Despite the absence of Dr. McCarty, this plenary meeting was still a very special occasion in the life of the ICAC, because the meeting marked the retirement of one of the most productive and influential members of the Secretariat in the history of the Committee.

Dr. Rafiq Chaudhry had been Head of the Technical Information Section of the ICAC since May 1991. During his tenure, he introduced many innovations in the work of the Section. He was one of the inspirers of the World Cotton Research Conferences, which are held every five years

and bring together hundreds of researchers from all over the world. Rafiq helped to form two of the four regional networks of researchers for the purposes of facilitating communications, namely the:

- Interregional Cooperative Network on Cotton for the Mediterranean and Middle East Regions;
- The Latin American Association for Cotton Research and Development;
- The Asian Cotton Research and Development Network; and
- The Southern and Eastern African Cotton Forum, in cooperation with the African Cotton Association.

Under Rafiq's leadership, each network meets once every 2-4 years and supports the development of cotton technology specific to the needs of each region. He conceived of and led the creation of the annual International Cotton Researcher of the Year award, won this year by Dr. McCarty. This award helps to raise the profile of cotton research and to encourage researchers in their efforts to improve cotton production practices.

Rafiq played an instrumental role in the formation of the International Cotton Researchers Association, which promotes international communication among cotton researchers. In

addition, Dr. Chaudhry is himself the author of numerous publications on cotton, including the books "Cotton Facts" and "Dictionary of Cotton", and a large number of cotton-related articles. Rafiq expanded the ICAC Recorder, which is published every three months, and provides summaries of emerging research with full citations. The ICAC Recorder allowed researchers around the world to know what is going on in every region in every discipline of cotton science.

Rafiq also developed and improved three publications that provide great insights into world cotton production practices, namely:

- Cost of Production of Raw Cotton
- Cotton Production Practices, and
- Structure of Cotton Research, Input Supply and Transfer of Technology.

Although Mr. Sette's time in the ICAC covered only a short part of his career, he also benefited from Dr. Chaudhry's advice and technical knowledge. He had been of valuable assistance during his tenure as Executive Director.

Dr. Chaudhry would be leaving ICAC early next year to enjoy a well-deserved retirement. The Executive Director called him on stage with all his colleagues from the Secretariat in order to present a token of recognition of his valuable services to the International Cotton Advisory Committee over all these years.

Dr. Rafiq Chaudhry remarked that it had been a great pleasure working for the ICAC where there were no limitations on initiatives. He thanked the member governments of the ICAC for the opportunity to serve them for 26 years. The ICAC was a great organization to work for. He had two messages for the member governments to consider during this meeting or in Washington, DC. The ICAC Secretariat is composed of highly dedicated professionals/staff and Dr. Chaudhry proposed to the member governments to consider developing a career structure for employees of the ICAC. Secondly, and more importantly, he drew the attention of the member governments to the decline of membership in the ICAC. A number of countries have left in the last few years and the governments must look into this issue. According to Dr. Chaudhry, this was due to a systematic management issue in the organization and it was the responsibility of the members to address these issues and resolve them. He once again thanked the delegates for their support.

The CHAIR thanked all the presenters and participants and expressed his hope for a very productive discussion of the cotton issues at this 75th Plenary Meeting.

The agenda of the meeting was approved. The session was adjourned at 10:30 hrs.

## First Plenary Session

### Statements

13:45 hr. Monday, October 31, 2016

In the Chair: Dr. Muhammed Ali Talpur, Director Marketing & Economic Research of the Pakistan Central Cotton Committee.

The CHAIR invited the delegate from India to open the session on country reports.

The delegate from INDIA stated that the textile industry in India predominantly uses cotton. The cotton sector employs many people, is a major contributor to foreign exchange earnings and contributes 2% to national GDP. India emerged as the world's largest producer in 2105/16, when production reached 5.7 million tons. While its textile industry uses several types of natural and man-made fibers, about 60% of consumption is cotton while other fibers comprise the remaining 40%. Cotton is produced in three distinct regions of India in numerous states and India has the largest area planted to cotton, of which 36% is irrigated and 90% is planted with biotech cotton. The total cotton area declined from 12.85 million hectares in 2014/15 to 11.91 million hectares in 2015/16, while mill use is expected to be 5.24 million tons. Cotton lint is freely traded, with most exports going to Pakistan, Bangladesh,

China, Vietnam, Indonesia, Turkey, Taiwan, and Thailand, while Mali, the United States, Pakistan, Cote d'Ivoire, Australia, Cameroon and Egypt were important sources for cotton imports in 2014/15. The government of India had implemented several measures to improve the quality and productivity of cotton through its Technology Mission on Cotton launched in 2000 with a focus on research and development, dissemination of technology to the cotton farmers, improvements to the marketing infrastructure and modernization of ginning and pressing sector. Due to the sudden surge in domestic cotton prices, the government had decided that the Cotton Corporation of India (CCI) would sell off its remaining stock to spinning mills in the micro/small/medium enterprise category. India's country report is a statement of the meeting.

The delegate of TAIWAN stated that her country's textile industry has a highly integrated production system that encompasses all stages, from spinning to garment manufacturing. As a result of restricted domestic business and intense international competition, Taiwan has focused on design and R&D to enhance the added value of products and upgrade product differentiation,

shifting the focus from price to innovation. In 2015, Taiwan imported nearly 190,000 tons of raw cotton and the value rose to US\$281 million, representing an increase of 8.3% in weight and a decrease of 13.9% in value from the previous year. The USA is the largest supplier of raw cotton to Taiwan in 2015, providing 47% of the total imports by value, followed by Brazil (19%) and India (11%). With assistance from the government, Taiwan's textile sector is mainly developing high value-added materials in order to become a R&D base for functional and technical textiles. The delegate invited attendees of the Plenary Meeting to its 2017 seminar in Taiwan, which would be the fifth such seminar jointly organized by ICAC and the Taiwan Textile Federation, to further discuss issues in the cotton industry and development trends in the global textile and apparel industry. Taiwan's country report is a statement of the meeting.

The delegate of AUSTRALIA stated that farming communities in Eastern Australia have greatly benefited from cotton by employing around 10,000 people. Cotton is typically grown as one of several crops. Australia has the world's highest yield (typically 2.5 to 3 times the world aver-

age) and has increased water efficiency by 40% as well as reduced insecticide use. Australia has looked for opportunities to stimulate research, such as its work with Pakistan through BCI to reduce reliance on insecticides and determine critical application rates of fertilizer. Australia's participation in BCI and its own sustainability programs have made cotton production better for both the people and the environment involved in the sector. While Australia was not a large cotton producer on a global scale, the country is the fourth-largest exporter in the world due to the fact it exported around 99% of its production, of which around 98% was shipped to Asia. Water availability, crop management profitability, weak global demand for cotton and climate change are ongoing challenges to Australia's cotton sector. The key strategic issues for the sector are to continue to enhance sustainability and responsible production and to increase global promotion to enhance demand. The delegate stated that ICAC's role is to be a leader in addressing these strategic issues and promoting production and resource-use efficiency, analysis and evaluation. Australia's country report is a statement of the meeting.

The delegate from SUDAN noted that cotton helps to reduce poverty and is a main source of staple fiber for human and animal consumption. Sudan cultivates both medium- and long-staple cotton, with about 5% of cotton produced being Bt cotton. Production and area have fluctuated due to factors such as international prices, but yield had increased in recent years due to extensive research efforts. The cotton sector in Sudan faces several challenges, including new pests that have emerged and the adverse effects of climate change, but researchers are working to develop new varieties to better face these challenges and increase productivity. He requested that ICAC continue to support all cotton research where possible and to help with the promotion and marketing of cotton globally.

The delegate of BURKINA FASO noted the relevance of the theme of the Plenary, which emphasized activities of actors throughout the cotton value chain to improve the sector's performance. He asserted that particular attention should be paid to facing the challenges through good production practices, the adoption of appropriate technological innovations and cotton processing in order to improve earnings and competitiveness throughout the cotton value chain. ICAC's international scope and the proven research experience of its members and non-members provided opportunities to collaborate in order to adapt to the risks associated with climate change. Some practices that could help the situation were production techniques that improve yield and conserve water and soil by using improved seed varieties, planting under a crop cover, and supplemental irrigation among other factors. An insurance mechanism against climate change risks could also help alleviate the

situation. Climate change strongly influenced the outcome of the cotton crop in countries like Burkina Faso, which are entirely rainfed. This situation required all stakeholders to find and develop agricultural practices to protect family farmers from climate change, which can easily destroy the results in a single season. Burkina Faso's country report is a statement of the meeting.

The delegate from KENYA noted that cotton has potential to reduce poverty and unemployment due to linkages along the cotton value chain from farmers and ginners to suppliers of inputs like cottonseed. In Kenya, cotton is grown by small-holder farmers and, although 40,000 hectares are available for planting cotton, only around 10% of this land is being used. Similarly, ginning capacity in Kenya is around 147,000 bales, but only 40% of capacity is being used. The government of Kenya has partnered with researchers for building a stock of certified seeds that are distributed at a subsidized cost. The government of Kenya has approved a national technology policy strategy, which includes the provision of planting seeds, and advisory services, to be implemented in marginal growing areas. The delegate explained that Kenya's textile sector has benefitted from the United States' African Growth and Opportunity Act (AGOA), which provides African countries, such as Kenya, with preferential access to the US market and that the 10-year extension of AGOA will likely promote growth of Kenya's textile industry. Kenya's country report is a statement of the meeting.

The delegate of PAKISTAN stated that cotton is a major cash crop and the backbone of Pakistan's economy, accounting for 12.5% of its GDP. Exports of cotton and textiles represent a large portion of Pakistan's overall exports. The delegate stated that its current policy is for the free trade of cotton lint. 15% of Pakistan's total arable land is under cotton, while 521 domestic spinning mills consume the majority of its production and up to 1 million 170-kg bales may be exported. Nearly two million bales are imported to meet demand for extra-long staple cotton. Production fell to 9.92 million bales in 2015/16 due to climate change, lower prices, and pest pressure. The Pakistan Central Cotton Committee (PCCC) is the apex cotton research body of Pakistan and meets the demands of the cotton sector by disseminating data, documenting cotton trade, pricing and policies at the national and international levels and providing technical support for the planning of cotton policies at the federal level. The government is taking steps to upgrade its ginning sector, by measures such as the establishment of cotton standards through Pakistan Cotton Standard Institute (PCSI) and the setting up of a Ginning Institute in the public sector. Pakistan's delegate stated that organic cotton cultivation is being encouraged, particularly in Baluchistan, which is fertile and pest-free. Pakistan's country report

is a statement of the meeting.

The delegate of TURKEY noted that the sustainability of the cotton sector is important due to population growth and economic development putting pressure on the limited resources available to the sector. The clothing and textile sector is one of its largest and best performing sectors in the country's economy. Cotton mill use is expected to remain stable at 1.5 million tons in 2016/17, as its textile sector is based on cotton. In fact, Turkey imported a significant volume of cotton, since demand for lint is greater than domestic production. Turkey has strong trading ties with the European Union and 75% of its textiles are exported to that region. Higher manufacturing costs, particularly for labor, in recent seasons have minimized Turkey's competitive advantage in costs. Instead, Turkey is focusing more on R&D as well as higher value-added items. However, competition from other fibers threatens cotton consumption. More must be done by all stakeholders of the cotton sector to minimize the challenges facing the sector by working together to improve technical performance, create awareness of cotton's contribution to improving health and the environment in comparison with man-made fibers, and supporting growers so that costs are reduced. The delegate noted that Turkey will be organizing the next World Cotton Research Conference in 2020. Turkey's country report is a statement of the meeting.

The delegate of EGYPT stated that over five million people are involved in Egypt's cotton sector, which covers processing and cultivation. The government of Egypt was working to help the sector face the challenges of competition from polyester and high production costs, which made cotton less competitive. The delegate remarked that low prices of seedcotton had reduced the cotton area in recent seasons and as result, the government was working to maintain cotton sustainability through research programs and plans that aim to produce new varieties that are higher in yield and quality, develop commercial varieties and improve yield. Giza 94 and Giza 95 are two new extra-fine varieties that were added this season, making up a total of ten different varieties available for cultivation. In order to expand its spinning sector, Egypt is planning to use more HVI instrument testing in classifying its cotton and to establish new spinning mills that are located closer to production areas and water sources. Egypt's country report is a statement of the meeting.

The delegate of UGANDA stated that the Ministry of Agriculture is implementing its Agriculture Sector Strategic Plan (ASSP) covering 2015/16 to 2019/20 and includes cotton as one of twelve strategic commodities to be given extensive investment. The government will focus on strengthening research on seed modification and technical support to cotton farmers in order to improve lint quality and promote domestic value addition. Cotton production increased

modestly due to efforts from the government including provision of quality inputs and extension services. However, mill use declined in 2015/16 as mills carried over a large volume of yarn from 2014/15. Uganda is implementing new classification standards as approved and adopted by International Cotton Association (ICA) in July 2016 for use as the official standards over the next two seasons. Uganda has participated in several international programs supported by India, including the Cotton Technical Assistance Program (TAP), which established a biopesticide lab in Eastern Uganda and the Supporting Indian Trade and Investment for Africa (SITA), which provided training on cotton contamination to Ugandan ginner and lint exporters in February 2016. Uganda's country report is a statement of the meeting.

The delegate from BRAZIL observed that cotton production in Brazil declined from a high of nearly two million tons achieved in 2011/12 to 1.3 million tons in the current season due to declines in area and yield. The cotton area is expected to increase in 2016/17, due to low inventories in 2015/16. While international cotton prices have fallen by about 3%, Brazil's revenue from exports had grown due to the much larger volume of cotton exported than in previous years, reaching US\$783 million for the period January to September 2016. This result would encourage producers to expand area. Mill use had declined in recent seasons, due to the recession and political difficulties the country has recently experienced, but would likely recover as the economy and political situation improve. Brazil is the largest producer of BCI cotton in the world, and production of BCI cotton represented 63% of the planted area and 71% of total production in 2014/15. The delegate noted that Brazil was implementing a quality inspection program based on HVI data, which would be monitored by a newly constructed laboratory in Brasilia. This would guarantee quality and full traceability of all Brazilian cotton for growers, traders and spinners. The delegate invited delegates and observes to ask for further information if they were interested in this program and that a presentation on the HVI traceability inspection program was available to be presented.

The delegate of the UNITED STATES noted that upland production in 2016/17 is expected to be 15.5 million 480-lb bales, which is 24% greater than production in 2015/16 and above the 5-year average. The yield in 2016/17 is lower than the 5-year average, but has increased since last season while the abandonment rate is has decreased to less than 5%. The delegate stated that mill use is slightly higher in 2016/17, projected to reach 3.5 million bales, compared to 3.45 million bales in the previous season, but much lower than the record mill use achieved in 1997/98. The delegate noted that the United States is the world's largest cotton exporter and its share of exports is expected to increase to

35% in 2016/17, the highest since 2008/09. The main destinations for its exports are Vietnam, Turkey, Mexico, China, and Indonesia. USA's country report is a statement of the meeting.

The CHAIR introduced Fatih Dogan, Vice Chair of the Private Sector Advisory Panel (PSAP), to present a report on the Panel's 36th meeting. Mr. Dogan reported that the PSAP noted that a crucial element in the loss of market share of cotton was the gap in prices in relation to polyester. The PSAP recommended that the terms of the study on the economic factors underlying the growth of polyester production and demand, currently being conducted by the Secretariat, should be broadened to include government policy measures that stimulated the increase of production capacity in the polyester sector. The PSAP had emphasized the need to streamline the trade of cotton by harmonizing and standardizing phytosanitary measures. Panel members had expressed satisfaction that the process of accession of the European Union to the ICAC was moving forward and had been informed that the EU intended to introduce a proposal to revise the Terms of Reference of the Panel upon its accession. PSAP members note that the goal of any changes in the Terms of Reference of the PSAP should be to maintain a wide diversity of viewpoints and encourage increased participation. The PSAP's report is a statement of the meeting.

The CHAIR introduced Jens Soth, member of the Expert Panel on Social, Environmental and Economic Performance of Cotton (SEEP), who presented an update on the testing of SEEP framework sustainability indicators. The indicator framework had been introduced in 11 countries: Australia, Benin, Bolivia, Cameroon, China, Paraguay, Peru, Senegal, Togo, USA and Zambia. Three more Latin American countries (Argentina, Colombia, and Ecuador) will conduct a test run in 2017 and five countries had conducted workshops to discuss the framework (Burkina Faso, Ivory Coast, Guinea, Mali and Niger). A detailed report on the experiences of the pilots and the highlights of the results for each country was presented. The overall conclusion was that concern about the sustainability of cotton production is shared by the stakeholders in the countries being tested and that the SEEP framework was a much-needed basis for identification of relevant indicators adapted to local conditions. Nevertheless, the requirement for further guidance had been expressed, in order to clarify the raw data needed to inform each selected indicator. The SEEP aims to produce a report in 2017 to systematically capture the lessons learned from all the pilot tests. This lessons learned report will contain three methodical steps: a summary table of all indicators, by pilot test activity, showing which of them have been used, modified for the regional context or identified as difficult to implement; an analysis of how the utilized indicators were applied and

how corresponding raw data were collected; and an organizational assessment of the roles of different actors in the pilot countries and how they collaborated to implement the framework. Mr. Soth finished his presentation by thanking all stakeholders doing the pioneering work of the pilot tests. The SEEP's report is a statement of the meeting.

16:00 hr. Monday, October 31, 2016

In the Chair: Dr. Muhammed Ali Talpur, Director Marketing & Economic Research of the Pakistan Central

The delegate of MOZAMBIQUE stated that cotton is an important crop for his country's economy, which had been grown for decades and reached a record of 67,000 tons of lint in 2011/12. Despite recent diversification in Mozambique's economy and the emergence of other commodities, cotton remained the seventh-largest exported commodity and supports rural livelihoods and development by ensuring cash income for producers. The cotton sector in Mozambique is highly regulated and operates under a system of regional concessions whereby private companies are given exclusive rights to cotton produced in their region in exchange for the provision of inputs and extension services to farmers. Like many other countries, Mozambique's cotton sector was influenced by various factors including national policies, management and technical assistance provided to farmers, exchange rates, pests, diseases, climate risks and the dynamics of the international market. These stimuli resulted in frequent variations in national production, which has ranged from 25,000 tons to 35,000 tons in recent seasons, well-below the record achieved in 2011/12. Production is expected to decline to 30,000 tons in 2016/17 due to unfavorable weather conditions, farming inefficiencies and price volatility, all of which result in low prices paid to farmers. In order to minimize the impact of price volatility on the cotton sector, Mozambique is developing a price setting and stabilization mechanism to be implemented from April 2017. The delegate noted that this year's theme is timely, since the cotton sector faces challenges throughout its value chain and the sustainability of cotton will depend on the ability of partners along the value chain to cooperate rather than compete with each other. The delegate stated that the government is implementing a 10-year plan, the Cotton Value Chain Revival Program, to increase production, yield and local use. The delegate thanked ICAC for its help with the project of the Common Fund for Commodities to modernize its national cotton classification system by developing three laboratories that use high volume instrument testing.

The representative from the French Agricultural Research Centre for International Development (CIRAD), a French international research organization, noted that its research focus was on developing the sustainable production of crops,

particularly cotton, in tropical and subtropical regions. The delegate focused on four activities undertaken by CIRAD to improve the cotton chain sustainability. The first is ITK AID-Coton which promotes exchanges on sustainable and competitive production practices and was implemented in Africa with the help of the African Cotton Association, a regional coordinating organization of agricultural researchers and a private sector company. The project enabled the introduction of the technique of transplanting and adaptation to African conditions of cotton that is in line with the indicators proposed by SEEP. The second activity is a diagnosis of cotton research in Africa in order to relaunch it and be better prepared to overcome the challenges of internationally competitive cotton production for food security. The third program that CIRAD participates in is the “4%” initiative, which

works to increase organic matter content in soil in order to sequester carbon. The fourth activity is assisting cotton producers, primarily in Africa, to characterize cotton outputs, including fiber as well as seeds, by setting up regional technical centers in Mali and Tanzania that will need sustained support to maintain operations and by helping cotton producers to take advantage of CIRAD's cotton gene bank. CIRAD's report is a statement of the meeting.

The representative of the International Cotton Association (ICA) explained that the organization was the world arbitral body for cotton, whose bylaws and rules were applied to nearly all the international trade of cotton, and therefore was also responsible for the settlement of any disputes, which might arise between buyers and sellers by arbitration. He noted that cotton prices have not fluctuated much this season, which has

resulted in a healthier trading environment and a reduction in the number of disputes between buyers and sellers needing to be settled by arbitration. The representative remarked that the significant fluctuations in cotton prices continue to affect the cotton sector and many disputes from the 2010/11 time period remain unresolved because legal arbitration awards under the New York Convention, which had been signed by almost all governments, have not been honored. The representative encouraged governments to review the list compiled by ICA of defaulting companies for companies located in their respective countries and to insist that these companies comply with their obligations in order to ensure the continuity of cotton's important position in world fiber usage and halt the decline in its market share. ICA's report is a statement of the meeting.

## First Open Session

### *Sustaining Cotton Growth: Incorporating Climate Dynamics*

9:00 hr. Monday, November 1, 2016

In the Chair, Mr. Abdul Rahim Soomro, Secretary, Department of Industries, Sindh, Pakistan

The CHAIR welcomed all delegate to Pakistan on his own behalf and hoped that they were enjoying the hospitality of people and the Government of Pakistan. He invited Dr. Tanvir Malik of the University of Agriculture, Faisalabad, Pakistan to make his presentation on development of varieties resistant to drought as well as waterlogged conditions.

Dr. Malik stated that environmental changes are now occurring at a faster pace and agricultural research has to cope with the changes that are hard to forecast. He emphasized the importance of not only facing drought conditions but also waterlogged situations that often become a problem in the southern part of the province of Punjab, Pakistan. Draining water to avoid losses is not the solution and, unfortunately, no research is going on in this field. Dr. Malik proposed using hydroponic culture for screening cotton under simulated drought as well as waterlogged conditions. He presented illustrations of experiments he had conducted to simulate drought and waterlogged conditions for screening breeding materials. Stopping air circulation to exposed roots for one or two days suffocates the plants and creates waterlogged conditions. Cell membrane stability is another important criterion for screening plants under water stress (water deficit and waterlogging/excessive water). Cell membrane stability will prove that the tested genotype is tolerant to water stress. DNA was extracted and SSR primers (3000) were

used to screen the contrasting parents and the F2 population. 146 primers were polymorphic between the parents. Dr. Malik reported that his work has proved that the DNA marker (380b) on chromosome A1 using the primer NAU-6790 was linked to cell membrane stability. Instead of whole DNA, the identified DNA marker could be used to screen cotton genotypes resistant to water deficit conditions. Dr. Malik's report is a statement of the meeting.

Mr. Abeyemi Fahala, Permanent Secretary of the African Cotton Association divided his presentation into three sections: the African Cotton Association and its activities; African cotton and its marketing; and the impact of climate change on cotton. He thanked the ICAC and the Government of Pakistan for the opportunity to make a presentation to the 75th Plenary Meeting of the ICAC. The African Cotton Association was established in 2002 with headquarters in Benin. The Association has three categories of members: active/founding members, associate members and corresponding members. The Association has an open door policy and welcomes more members. Mr. Fahala presented numerous qualities of cotton produced in Africa and the work done by the African Cotton Association to promote marketing of African cotton at the international level. He referred to the 2015 United Nations Climate Change Conference, COP 21 or CMP 11, which was held in Paris, France, which had produced sound recommendations to contain/reduce the process of climate change. The rise in temperature must be contained to 2.8-3.0 degrees Celsius by the year 2100. An alliance of partners was necessary to achieve these

objectives. However, he also added that least developed countries have their own limitations to comply with recommendations made at the conference. Citing the example of Chad, where numerous initiatives have been undertaken, Mr. Fahala stated that progress and achievements are possible to be attained provided serious and collaborative efforts are made to tackle the climate change problem. Mr. Fahala's report is a statement of the meeting.

During the question and answer session, Ms. Annie Zidana, of Malawi, asked if there were additional methods other than hydroponic culture to screen varieties for drought and waterlogged conditions. Dr. Malik replied that hydroponic culture is the most reliable method to screen genotypes, although other methods are available. Dr. Saghir Ahmed of Pakistan added that pollen viability could also be used for screening genotypes for drought.

Mr. Ansou Badji of Senegal asked about diversification in the uses of cotton in Africa and collaboration with the research community for facing the changing conditions. Mr. Fahala replied that the African Cotton Association is doing its best to make use of expertise of the research community in the region. He also added that certain issues have to be resolved at the national level within countries.

In his summary, the CHAIR also drew the attention of participants to the high cost of production, which is a major concern for the farming community.

The meeting was adjourned at 10:28 hrs.

# Second Open Session

## World Cotton Market Report

9:00 hr. Tuesday, November 1, 2016

In the Chair: Mr. Hassan Iqbal, Federal Secretary, Ministry of Textile Industry, Government of Pakistan

The CHAIR presented a welcome address and opening remarks and invited Dr. Muhammed Ali Talpur, Director Marketing & Economic Research of the Pakistan Central Cotton Committee, to deliver his presentation.

Dr. Talpur started his presentation by showing the historical growth in the area planted to cotton in Pakistan, which had increased from one million hectares to about 2.8 million hectares from 1947/48 to 2015/16. Punjab is the largest producing province, accounting for 80% of the total area planted in Pakistan. In 2015/16, the cotton area decreased slightly due to some technical reasons. The combination of lower area and yields, as well as the increased cost of production at the farm level, were the main factors behind the decline of production of cotton in Pakistan. Dr. Talpur presented the cotton market structure in Pakistan, which was composed of growers, commission agents, ginning factories, spinning mills, cotton yarn, exporters, and local textile industry. Dr. Talpur presented the evolution of seed cotton prices since 2006/07 and noted that the Pakistan cotton sector followed international cotton prices. Pakistan had produced more than three million tons of cotton yarn in 2013/14 and 2015/16. However, in 2015/16 production dropped to just over 1.5 million tons. Dr. Talpur finished his presentation with a report on the cotton balance sheet in Pakistan. Dr. Talpur's report is a statement of the meeting.

Ms. Rebecca Pandolph, the ICAC Statistician, made a presentation on cotton supply and use. She noted that a very strong historical correlation exists between prices prevailing during a given season and the planted area for the next season. In 2015/16, despite cotton prices remaining similar to the previous season, cotton area had continued to fall. One of the factors affecting how much cotton is produced worldwide is the prices of cotton and competing crops at planting time in the northern hemisphere, which accounts for 90% of total production. Ms. Rebecca noted that the world average yield increased from 600 kilograms per hectare in the 1990s to around 800 kilograms between 2000 and 2006. In 2016/17, cotton yields are expected to increase in most of the main producing countries; as a result, world cotton production will rise to 22.4 million tons. India will account for 26% of the total production, follow by China (20%), the USA (16%), Pakistan (8%), and Brazil (6%).

Ms. Pandolph pointed out that the USA will continue to be the largest exporter of cotton,

follow by India, countries in Francophone Africa, Brazil, Uzbekistan, and Australia. World cotton imports are mainly exported to Asia. In 2015/16, both Bangladesh and Vietnam had surpassed the quantity of cotton imported by China. Consumption in China has declined since 2009/10 season and is now projected to account for 30% of global consumption. In 2016/17, world cotton consumption is forecast to remain at the same level as the previous season, while cotton production is expected to increase to 22.4 million tons. This would be the second consecutive season in which consumption would exceed production. Ms. Rebecca noted that as a result of a lower production and similar mill use, world ending stocks are expected to fall to 18 million tons. Ms. Pandolph's report is a statement of the meeting.

The CHAIR opened the floor to questions. A participant from the audience asked the reasons behind the decline of cotton prices. Dr. Talpur noted that Pakistan prices follow international price trends. Ms. Pandolph noted that from the global perspective, the fall in prices was mainly caused by the end of the stockpiling policy in China in the spring of the 2014. A participant from the audience suggested that ICAC's report called Cotton This Month should focus more on planted area and be released on a fortnightly basis. Ms. Pandolph commented that the secretariat produces a weekly report (Cotton This Week), which includes current estimates of world cotton supply and demand, as well as a quarterly report (Cotton: Review of the world situation) that provides a detailed analysis of the world cotton market.

Mr. Andrei Guitchounts, the ICAC Director of Trade Analysis, presented ICAC's annual report on government measures supporting the cotton sector. Direct assistance to cotton was provided through direct support to production, border protection, crop insurance subsidies, minimum price support use and minimum support price mechanisms. These were estimated at US\$7.2 billion in 2015/16, down 30% from a record of US\$10.7 billion in 2014/15. Mr. Guitchounts also noted that there is a strong negative correlation between subsidies and cotton prices: in years in which prices are high, subsidies tend to decline and in years when prices are low, subsidies tend to rise. The share of world cotton production receiving direct government assistance increased from an average of 55% between 1997/98 and 2007/08, to an estimated 83% in 2008/09. During 2009/10 through 2013/14, this share declined and averaged 48%. In 2014/15 the proportion of production receiving direct assistance increased to 76%. The share declined to 71% in 2015/16.

Mr. Guitchounts stated that the benefit (subsidy) received by producers in China as a result of the government interventions is estimated at \$5.3 billion in 2015/16, or 50 US cts/lb, compared with \$8.2 billion, or 57 US cts/lb, in 2014/15. For the USA, the sum of all types of support provided to cotton producers, including crop insurance, STAX, LDP, MLG and the Cotton Ginning Cost-Share program, is estimated at \$1.1 billion or 18 cts/lb in 2015/16, compared with \$860,000, or 11 cts/lb provided in 2014/15. Several countries used a minimum support price mechanism. In India, the minimum support price (MSP) for 2015/16 was increased to Rs 4,000 per 100kg of seed cotton, equivalent to 80 cts/lb of lint, at the season-average exchange rate. Based on the difference between the procurement price and the value of the government stock at market prices, it is estimated that the cost of MSP operations to the Indian government could reach \$51 million. In the European Union, both Greece and Spain receive direct assistance and Spain has the high per-unit level of assistance of 55 cents/lb. Turkey provided US\$381 million in assistance in the form of a premium for high quality seed cotton. Mr. Guitchounts' report is a statement of the meeting.

The delegate from BRAZIL expressed his concerns about the incentives given by the government of the USA to cotton growers in 2015/16 seasons. According to the secretariat report, the benefit received by producers in the US increased from 11 cents per pound to 18 cents per pound. Mr. Guitchounts responded that the estimates are calculated from the reports provided by the US Department of Agriculture, and that the report includes the USDA Farm Service Agency (FSA) subsidy of \$300 million in cost-share assistance payments to cotton producers through the new Cotton Ginning Cost-Share program.

Dr. Rafiq Chaudhry of the Secretariat presented a report on costs of cotton production in 2015/16. He started his presentation from the conclusion, based on the average of 31 countries that represented 87% of world cotton area in 2015/16, that the net cost of production of cotton had declined to US\$1.16/kg of lint in 2015/16. The decline in cost of production was due to higher price of seed received after ginning, lower costs of insecticides/plant protection and the lower cost of picking and ginning in 2015/16. The cost of production per kilogram of seedcotton produced declined in 2015/16 to US\$0.46 compared to US\$0.52 in 2012/13. Dr. Chaudhry stated that the most expensive input in 2015/16 was the cost of fertilizers, which was US\$0.27/kg of lint produced. The second most expensive component of cost of production was picking.

Dr. Chaudhry observed that production under irrigated conditions had a higher cost per hectare but that the cost per kilogram is lower under irrigated conditions, i.e. US\$1.05 as compared to US\$1.20/kg on the average of non-irrigated area. Dr. Chaudhry also presented data showing that average yields between biotech and non-biotech groups of countries were equal, but the net cost of production was lower in countries producing biotech cotton compared to the group of countries that produce conventional varieties. The net cost of production among the seven most important cotton-growing countries (excluding Uzbekistan which did not participate in the survey) is highest in the USA, where the cost of

producing one kilogram of lint was US\$1.88. In China, the net cost of production was US\$1.70 per kg in 2015/16. Production costs were lowest in India. Brazil spends 5 to 6 times more on insecticides compared to other major countries. China spends more money on fertilizers than any other country among the 7 major producers.

In response to a question from the delegate of PAKISTAN, Dr. Chaudhry stated that average yields in the world are in a period of slow/low growth. He observed that small increases in yields will continue to come, but that any significant increases in yields are expected to come from biotechnology. Features that could have a significant impact on yields are fertilizer-

use-efficient and drought-tolerant cottons. In response to another question from the delegate of TURKEY, Dr. Chaudhry said that the substantial increases in yields in India following the adoption of biotech cotton were due to the combined effect of many factors, with biotech cotton being just one of them. As such, the Bt gene in insect-resistant biotech cotton has no genetic reason to produce higher yields. The delegate of PAKISTAN enquired as to the reason for the higher cost of production in Pakistan compared to India, which Dr. Chaudhry related to higher pest pressure in Pakistan. Dr. Chaudhry's report is a statement of the meeting.

The Session was adjourned at 12:30 hrs.

## Third Open Session

### *Reducing the Water Footprint of Cotton*

11:00 hr. Tuesday, November 1, 2016

In the Chair, Mr. Hammad Naqi Khan, Director General/CEO, WWF, Pakistan

The CHAIR introduced Dr. Shafiq Ahmad, Country Manager, Better Cotton Initiative (BCI), Pakistan. Dr. Ahmad highlighted the importance of cotton and water management in cotton production. However, cotton production has challenges related to water management, soil depletion, working conditions and improper use of pesticides. In Pakistan 50% of applied pesticides is wasted, 10,000 farmers are poisoned annually and in several countries 10% of labor used in cotton cultivation comes from children. Per capita water availability in Pakistan has declined drastically from 5,300 cubic meters in 1947 to less than 1,000 cubic meters in 2016, and Pakistan is among the "water hotspots" of the Asia-Pacific region. Globally, 71% of water withdrawals are used in agriculture, while in Pakistan this figure reaches 94%. World temperatures are rising and the Himalayan glaciers could disappear in a few decades. The answer to these challenges is sustainable production practices. In 2012 BCI accounted for 2% of world cotton production, while organic cotton was responsible for 0.5%. In 2015 sustainable cotton production accounted for 16% of world cotton production, of which BCI reached 12%. By 2020 BCI aims to increase its share to 30% based on recent growth rates. The organization aims to make global cotton production sustainable and better for farmers, the environment and the sector's future. BCI participation reached 1.6 million farmers in 21 countries, and the goal is to reach 5 million farmers and 30% of world production by 2020. In Pakistan BCI has 12 projects in 16 districts, 125,000 participating farmers and covers 550,000 hectares with production reaching 300,000 tons of lint. BCI is working in Pakistan on increasing efficiency in water use, enhancing biodiversity and empowering

women, while stimulating collaboration between all stakeholders across the cotton supply chain, public and private. BCI is working in partnership with Cotton Australia and the Australian government, with Water Stewardship Program, Helvetas-SDC, Ikea, WWF, ILO, other organizations and universities on sustainable cotton production. Dr. Ahmad's report is a statement of the meeting.

The CHAIR introduced Dr. Hassan Ahmed, of the Agriculture Research Corporation, Sudan. Dr. Ahmed covered ways to reduce water footprint in an environment of water scarcity, increasing global population and demand for water and climate change with rising temperatures. To reduce cotton's water footprint it is necessary to improve water use efficiency and productivity in cotton production. For greater efficiency in water usage, runoff should be minimized, deep drainage should be avoided, soil water holding capacity should be improved and agronomic practices for higher yields should be adopted. Currently agriculture consumes more than 90% of water in Sudan, humans and animals account for 5%, and 1% goes to industrial uses, while demand for water is growing. Water requirements for the production of extra-long staple cotton in the Gezira scheme are the highest of all crops, while productivity in kg per cubic meter of water is the lowest. Water productivity for medium staple cotton, especially GMO cotton, is much higher. He indicated that precision agriculture, including satellite imaging, crop and soil color maps, soil sample collection and spatial variability could be a solution for better water management. In addition, irrigation scheduling models can be useful. For better water management, one needs to assess the performance of irrigation systems and reduce conveyance losses, while using deficit irrigation, irrigation scheduling models, precision agriculture, high-yielding varieties and genetic engineering. The price of water should be based on the volumes used, not area.

The CHAIR introduced Mr. Arif Makhdom, WWF, Pakistan. Mr. Makhdom stated that the WWF's mission is to stop the degradation of the planet's natural environment and to build a future in which humans are able to live in harmony with nature. The organization has more than five million supporters all over the world. He highlighted the importance of cotton and textiles for Pakistan and noted that 95% of total available fresh water resources in the country is used in agriculture. With the growth of population, water resources are shrinking. About 56 million-acre feet (MAF) of water is diverted every year into the Punjab irrigation system, and there are substantial losses in the system. WWF runs the Sustainable Agriculture Program in Pakistan's seven regions, with 92,350 farmers engaged in five BCI projects in an area of 355,600 hectares. The objective is to train and build capacity to enable sustainable cotton production. These programs resulted in a 24.7% reduction in water usage, a 31.5% reduction in pesticide use, 27% less synthetic fertilizer use and an increase in net profit of 24.4%. He noted that 115,366 tons of BCI cotton were produced in Pakistan and that leading brands are expressing an interest in this product. Cotton water footprint is one of the most comprehensive impact indicators. Indicators identify three tips of water footprint. The green water footprint is water from precipitation that is stored in the root zone and is particularly relevant for agricultural, horticultural and forestry products. The blue water footprint is water that has been sourced from surface or ground water. The grey water footprint is the amount of fresh water required to assimilate pollutants in order to meet specific water quality standards. In Pakistan, cotton is 100% irrigated and the blue water footprint is estimated to account for 56% of the total water footprint. The water footprint assessment helped in identifying potential and important cotton production zones and indicating ways to increase water use efficiency, while

reducing contaminants in water caused by fertilizer/pesticide applications. Dr. Makhdum's report is a statement of the meeting.

The CHAIR introduced Mr. Danilar Andakulov, of Helvetas, Kyrgyzstan. Mr. Andakulov reported that Helvetas is implementing six projects in four countries (India, Pakistan, Kyrgyzstan and Tajikistan) in rice and cotton. The main donor to the projects is the Swiss Agency for Development and Cooperation (SDC). Life cycle assessments of cotton fiber and fabric show the benefits of cotton, although high water use is identified as a weak point. Water productivity is identified as a "leverage point" for food security in other reports. Helvetas uses a push-pull approach in its projects. The push component is the promotion of efficient water management practices, technical support and campaigns to increase knowledge of water use efficient methods. The pull approach provides incentives. Buyers demand and support water-saving products and provide pricing incentives to producers. Implementation policies must focus on good water governance. Technologies

promoted in project countries include using short furrows, irrigating every second furrow, alternating furrow irrigation, laser leveling of furrows, and soil humidity measurement. Improved methods of irrigation have resulted in 33% less of water use and 35% better yield compared with traditional methods. Innovative methods of irrigation led to substantially higher income per hectare of production. Mr. Andakulov's report is a statement of the meeting.

A delegate of TAIWAN asked Dr. Shafiq Ahmad about the premiums paid by spinners for BCI cotton and what share of this was transferred to farmers. Dr. Ahmad answered that the organization discourages any premiums on BCI cotton, but farmers benefit from improved productivity and yields.

The delegate of SUDAN asked what pest control measures are used in BCI production in Pakistan. Dr. Ahmad answered that BCI is encouraging the introduction of beneficial insects to control harmful bugs and also mechanical methods of control.

The delegate of BURKINA FASO asked Mr. Andakulov if water conservation technologies used in Kyrgyzstan could be used in smallholder rain-fed production in Africa. Mr. Andakulov replied that producers in Kyrgyzstan are also smallholders, so from the point of view of scale these water-saving technologies could be used in Africa. However, since he was not an agronomist, he was unsure about applicability to rain-fed production.

The Executive Director asked Dr. Hassan Ahmed to rank the most important measures for promoting water use efficiency. Dr. Hassan Ahmed replied that matching water requirements to the needs of the plant at different stages in its growth cycle is the most important for all stages of crop development. He also noted the importance of developing stress-tolerant varieties and reducing wastage of water in order to increase water usage efficiency.

The CHAIR summarized the session and adjourned the session at 12:40 hrs.

## Fourth Open Session

### *Overcoming Textile Industry Challenges*

13:45 hr. Tuesday, November 1, 2016

In the Chair, Mr. Hassan Iqbal, Secretary Ministry of Textile Industry, Government of Pakistan.

Mr. Kanwar M. Usman, Director, Ministry of Textile Industry began by noting that the textile industry is a lynchpin for the economy of Pakistan and contributes significantly to GDP. Mr. Usman explained that while Pakistan was a significant exporter and producer of cotton yarn and cotton cloth, ranking as 3rd or 4th largest in the world, it did not fare as well in cotton apparel exports. He noted that Pakistan is one of the few countries that has a complete cotton value chain from cotton production to garments and that cotton represents the largest share (nearly 80%) of mill use, unlike much of the rest of the world. He stated that cotton has lost market share worldwide, which is shown by the fact that its share of total textile imports by the United States, the world's largest importer of textiles, has declined to around 45% from 55% and similarly, cotton share of Germany's textile imports, the second largest, has declined from 48% to 40%.

The USA is the largest textile importer and cotton's share of imports is around 45%, but used to be higher. Second is Germany, where the share of cotton in imports is around 40% and used to be 48%. Mr. Usman explained that, prior to establishment of the World Trade Organization, it was mostly yarn and fabrics that were highly traded. Since the creation of the WTO, finished apparel has dominated textile trade. He noted

that one of the challenges for the textile sector, particularly for small- and medium-size enterprises in developing countries is that the sector is highly fragmented. He stated that while tariffs on textiles have decreased somewhat, non-tariff barriers have increased, so that the textile and apparel trade still operates in a restricted market. He explained that strict labor and environmental requirements are an example of non-tariff barriers that textile companies face, noting that Pakistan is one of the few countries that has signed the eight Core Conventions covering subjects that are considered as fundamental principles and rights at work identified by the International Labor Organization's governing body. Mr. Usman stated that efforts are under way to modernize Pakistan's textile sector, which has happened at a slower pace than in developed countries. So, the government is providing support, such as reduced taxes and zero-rated tariffs on imports of machinery. He noted that the government of Pakistan has introduced the 2nd technology upgradation fund, so that every manufacturer will be provided one-time financial support to install new machinery in the textile sector starting from July 1, 2016. Mr. Usman's report is a statement of the meeting.

Mr. Andrew Macdonald, Board Member, International Textile Manufacturers Federation (ITMF), noted that textiles face three main challenges: water, energy, and creativity. The latter is defined as turning new and imaginative ideas into reality. He noted that the world population was still expanding very quickly, but by some

projections will likely start to drop by the end of the century. This expansion will increase the demand for water and energy. He said that China has become a significant textile exporter while the textile exports of many other countries have been relatively unchanged since 2000. He asserted that e-commerce will play an increasingly larger role in clothing sales in the near future.

He explained that the competitiveness of the textile sector depends on increasing speed while using less labor, energy and water. He stated that there are already some options available for overcoming these challenges, such as machines like Drydye which dyes fabrics without using water. He noted that energy usage has declined in recent years for both ring spinning (-9%) and rotor spinning (-61%) so that both are as competitive as open-end spinning with regard to energy usage. This is important since energy represents about 20% of total spinning costs. This fact explains in part why spinning mills are returning the United States, which has significantly lower energy costs than its competitors. Mr. Macdonald articulated that mass customization, digital printing, and an evolution in big data that connects farmers with end consumers are ways to bring creativity to the textile sector.

He commented that cotton also faces these three challenges, which can be met by developing cotton plants that require less water through breeding and genetic modification. He stated that machines used in ginning and harvesting will need to become more energy efficient. He noted that, with regard to creativity, cotton class-

ing should also evolve in a fashion similar to how phones have evolved over time to become cell phones used by most people that are now integral to people's daily lives. Mr. Macdonald noted that high volume instrument (HVI) classing is already available, but is not widely used. The industry should actually be moving to further communicate the data from HVI to other participants in the value chain.

He explained that cotton consumption will not likely grow much over the next five years, but that both polyester fiber and filament are going to continue to grow quickly, with China maintaining its position as the largest producer while other countries, such as India and recently Vietnam, are also quickly expanding polyester production. He asserted that this is very significant because China is currently not even fully using all of its polyester production capacity. The recent decline in both value and volume of China's cotton yarn imports is also troubling, as it is by far the largest cotton yarn importer. If nothing is done, then cotton's market share will continue to decline. Mr. Macdonald's report is a statement of the meeting.

A delegate from BURKINA FASO gave thanks for the interesting presentations as they drew attention to the whole cotton value chain and inquired as to the reasons for the recent growth in polyester consumption.

Mr. Macdonald responded that the low price of polyester was one of the main reasons, but the other reasons include the fact that many spinning mills never returned to using cotton after switching during the price spike in 2011 and that polyester is easier to spin since it is more consistent. He also stated that polyester can now very easily mimic cotton and has other technical properties, such as moisture wicking, so that cotton needs to highlight the comfort of cotton

that consumers still demand.

A member from the audience stated that it was important for textile to be integrated if it wants to compete in the international market and asked whether Pakistan's textile sector was under a composite or sub-contracting system.

Mr. Usman stated that Pakistan has 50 composite units but the rest of the industry is very fragmented. Even in the spinning sector the majority of the units focus solely on spinning with no linkages to even weaving. He noted however, that Pakistan's level of technology is better than its neighbors, such as India and Bangladesh, so that there is room for growth.

Mr. Macdonald added that Pakistan's technology is well within world standards. He stated that ginning, however, was not given sufficient importance. Much of the quality of the crop can be lost during ginning and Pakistan should focus on modernizing its ginning facilities to make it more compatible with spinners' needs.

Mr. Usman noted that the Government of Pakistan has included ginning in its long-term financing facilities, which include a loan of 5% for three to ten years and new ginning machinery is also part of the 2nd Technology Upgradation Fund.

A delegate from INDIA asked what measures can be taken by the cotton sector to overcome the challenges discussed and how cotton can avoid being overtaken by polyester.

Mr. Macdonald said several measures can be taken including debunking the propaganda against cotton and looking at the level of government support for polyester and man-made fibers provided by countries such as China, which can be a possible argument to put forward at the international level.

A member of the audience asked whether Pakistan was working on any organic alternate.

Mr. Usman stated that it was very hard to replace cotton fibers, since both viscose and hemp have lower strength. So, the main competition is between cotton and polyester.

A member of the audience noted that the price of viscose is also too high for it to be a substitute. He asked whether cheaper prices would hurt farmers, even if it makes cotton more competitive for spinners and what was the outlook for Pakistan as more countries enter the international cotton market.

Mr. Usman stated that there are two ways to address these issues. The short-term approach by the government is coming up with a package to benefit the textile sector. The long-term approach is a new bill to have improved seed technology to improve yields and the government's focus on expanding its apparel sector since Pakistan is currently producing more upstream products.

Mr. Macdonald asserted that the situation was not entirely dire. While cotton's market share is decreasing, absolute consumption is likely to grow in the near future. He also noted that China is moving production from the eastern part of the country to the west. This strategy was unlikely to be successful since water is not as available and transportation is more complicated. As a result China's cotton production is likely to decline, so Pakistan should focus on expanding production and eliminate its need for imports.

The CHAIR noted that the point that Pakistan should not import cotton was important.

A member of the audience noted that the future of cotton should be more optimistic because, while area was significantly lower last season, it is set to increase significantly this season. The focus should be on making textiles more cost-efficient by using new technologies to increase yields.

## Fifth Open Session (World Café)

### Water Usage in Cotton

15:45 hrs, Tuesday, November 1, 2016

Facilitator: Mr. Jens Soth, Program Manager & Senior Advisor, European Union

For The fifth Open Session 74 participants from the 75th ICAC Plenary convened at 8 round tables to discuss issues of water management that had been previously addressed during the 3rd Open Session.

This event format, usually referred to as *World Café*, aims to allow a high interaction among participants. The fact that most participants could conduct these discussions in their preferred language – in addition to the five official ICAC languages, two Urdu-speaking tables were also offered – contributed to an intensive

and in-depth exchange. Also the differentiation between questions referring to rain-fed areas and questions that focused on irrigated regions allowed participants to discuss aspects which are relevant to cotton production conditions in their home countries.

The questions discussed by the participants were:

- For rain-fed areas:
  - What challenges exist for water management in rain-fed cotton production?
  - What can cotton farmers do on an individual and on a group level to improve water management in rain-fed cotton production?

- For irrigated areas:

- What can cotton farmers do as a group to improve irrigation water management?
- What are the five most important actions a farmer group could do to improve the management of irrigation water?

The groups discussing the water management in rain-fed cotton production regions emphasized the close link between climate change and water scarcity. Good and timely tillage and crop management helped to mitigate the corresponding risks. Retention ponds could serve as a local adaptation measure that villages or cotton farmer groups could establish in order to ensure good practices for water management, thereby not

only creating emergency solutions for drought situations, but also income opportunities via aquaculture.

The groups discussing water management challenges in irrigated cotton production regions emphasized the need for well-managed farmers

associations that jointly create awareness and assume responsibility for sustainable water management. Training farmers for high water efficiency technologies and measures in cotton production (e.g. alternate furrow irrigation, short furrow, etc.) was regarded as a further

pre-requisite for establishing good water management practices in regions with irrigated cotton production.

Further results from the various reports of the table moderators will be available in due course.

## Sixth Open Session - Technical Seminar

### *Emerging Pests in Cotton and their Control*

#### Report of the Chairman of the Committee on Cotton Production Research

9:00 hrs, Wednesday, November 2, 2016

In the Chair: Dr. Khalid Abdullah, Cotton Commissioner, Government of Pakistan

The Committee on Cotton Production Research of the ICAC organized a Technical Seminar on the topic of 'Emerging Pests in Cotton and their Control.' Five papers were presented in the Technical Seminar by researchers from Burkina Faso, India, Pakistan and the USA.

Dr. Muhammad Naveed of the Pakistan Central Cotton Committee presented a paper on 'New pests, new challenges.' He stated that cultivation of biotech cotton in Pakistan distracted attention from bollworm control and increased focus on the control of the leaf curl virus disease. Farmers found an easy solution to minimize the leaf curl disease by adopting early planting. Earlier planting of cotton extended the growth period and disturbed the agro-ecosystem, while inviting new pests to emerge as major pests. The longer growth period demanded more insecticide applications against sucking insects and gave rise to new pests, such as the mealybug, red cotton bug and the dusky cotton bug. With regard to bollworms, the pink bollworm had not been a major pest on cotton in Pakistan for 15 years. Biotech cotton helped to control the pink bollworm. However, since biotech cotton had only one Cry1Ac gene, the pink bollworm gradually developed resistance to the Bt toxin. Pakistan is reverting back to the proven cultural measures to control the pink bollworm, including stopping early sowing to protect bolls from short diapause emerging of the pink bollworm. In addition, work is also progressing on a forecasting model based on degree-days. Sex pheromone traps have been installed in each region to catch the pink bollworm moths and correlate them with meteorological data from the respective area.

In response to questions from the floor, Dr. Naveed stated that the whitefly is more prevalent in the Punjab compared to Sindh due to hotter and drier weather conditions. The most common use for cotton stalks in Pakistan is for fuel purposes and there are few, if any, uses for other byproducts. Biological control will be effective from the

beginning, since the moth population will start diminishing, thus producing less population in the next generation. Responding to questions from the delegates from Burkina Faso and Zimbabwe, Dr. Naveed said that organophosphate chemicals are quite effective against mealybugs. Dr. Naveed's report is a statement of the meeting.

Dr. Omer Hema of Burkina Faso made his presentation on the redistribution of pests in Burkina Faso after the adoption of biotech cotton. Dr. Hema said that commercial adoption of biotech cotton in Burkina Faso caused a significant decrease in the infestation of bollworms, particularly *Helicoverpa armigera*, and a trend towards decreased levels of outbreak of some sucking pests, whitefly, *Bemisia tabaci*, and the aphid, *Aphis gossypii*. On the other hand, studies could not prove that the recent jassid and mirid infestations in the West African sub-region were necessarily linked to the use of biotech varieties. The conclusions are based on the pest infestations prior to the adoption of biotech cotton in 2009 and five years later in 2014 when most area was planted to biotech cotton.

In response to a question raised, Dr. Hema stated that commercially grown varieties were transformed in the USA with the Monsanto Bollgard gene and then grown in Burkina Faso. No exotic variety was planted. The delegate of Burkina Faso added that biotech varieties were adopted in the country after meeting all the necessary legal and biosafety protocols. However, the staple length declined after the adoption of biotech varieties and Burkina Faso had to step back and reconsider growing of biotech varieties. Dr. Hema's report is a statement of the meeting.

Dr. Shahid Mansoor, of the National Institute for Biotechnology and Genetic Engineering, Pakistan, presented a paper on the topic of engineering dual whitefly and cotton leaf curl disease resistance in cotton. The cotton crop in Pakistan faces many challenges. Cotton leaf curl disease, breakdown of resistance against pink bollworm against Cry1Ac and whitefly are the major concerns. Biotech cotton developed by the National Institute for Biotechnology and Genetic Engineering has stacked three genes for insect and herbicide tolerance in a single cassette. Transgenic cotton with three genes has shown complete resistance to the armyworm. In another development sources of natural resistance have

been identified in a cotton line from USDA germplasm developed by researchers at Stoneville, Mississippi. This source of resistance has been incorporated in local elite germplasm. Several studies on use of RNAi for developing resistance to whiteflies have been shown in model plants. Transgenic cotton plants have shown good tolerance to whitefly under high pressure. The availability of these sources of novel traits will lead to cotton lines with multiple traits to boost cotton production and decrease the cost of production and the environmental footprint of cotton cultivation. Dr. Mansoor's report is a statement of the meeting.

The delegate of UGANDA asked if there was any risk of epistasis effects of newly inserted genes to protect cotton from the leaf curl disease and whitefly. Dr. Mansoor said that no negative effects of the new insertions have been noticed. The delegate of Burkina Faso was pleased to know the new developments to control whitefly, as the whitefly was also on the increase in his country.

Dr. Venkatesh Kulkarni presented a paper on Bt cotton and the pest scenario in India by teleconference. In India, 2015/16 was one of the worst years with respect to whitefly and the pink bollworm. The main reasons for widespread attacks were the susceptibility of hybrids to high-pressure of whitefly, late sowing, indiscriminate use of insecticides and unfavorable weather. The impact of pests losses was as high as 45% loss in yield in some areas, which upset growers. The pink bollworm developed resistance to Cry1Ac and Cry2Ab. The pink bollworm is not a regular pest and had recent epidemics in 1989, 1998, 2005 and 2015. Dr. Kulkarni stated that the next epidemic could be in 2021. He suggested that future options for the pink control are Widestrike, Bollgard III and BtEGII cotton expected to be released in 2017, 2019 and 2019 respectively. *Helicoverpa* and *Earias* have not shown any signs of resistance to biotech genes. Dr. Kulkarni's report is a statement of the meeting.

Dr. Akhtar Ali, Department of Biological Sciences, University of Tulsa, Oklahoma, USA focused his presentation 'Early warning and remedies for emerging pests with emphasis on viruses.' He said that emerging pests could be divided into three categories: invasive, evolutionary and resurgent (reintroduced). Viruses

and fungi fall under the invasive category. The viruses can be RNA viruses causing diseases like cotton bunchy top, cotton blue disease, cotton leaf roll dwarf and mosaic diseases. But, the cotton leaf curl virus disease, which is causing damage in Pakistan and India, belongs to DNA viruses. Dr. Ali stated that for effective control against viral diseases a diversified package of recommendations, including cultural practices, resistant cotton cultivars, applications of insecticides, removal of alternate hosts of viruses and effective communications including weather forecast data is necessary. Early-warning systems provide timely forecasts for farmers. Dr. Ali's report is a statement of the meeting.

The delegate from CIRAD observed that adoption of biotech cotton had consequences and in some cases even caused negative impacts to the environment. He asked all the presenters in the session about their preferences if they were to choose between better management or

biotechnology, while considering the long-term benefits. How can negative consequences be avoided and should technology developers be involved in solving new problems? On behalf of all the speakers, the ICAC Secretariat replied that researchers and farmers should not rely on any one method of control, but rather use all possible control options. The technology developers, whether in the public or private sector, offer new technologies along with a package of recommendations to avoid consequences and make use of the technology for a long time. In most cases, the consequences develop due to violations of recommendations and technology developers cannot be held solely responsible for the emerging problems.

The Committee on Cotton Production Research of the ICAC decided to hold the 2017 Technical Seminar on the topic of 'Opportunities and Challenges for Technology Transfer in Cotton.'

Dr. Michel Fok, chairman of the International Cotton Researchers Association (ICRA), presented a report on the World Cotton Research Conference-6 held in Brazil in May 2016. He defined the objectives of ICRA as serving an international voice on cotton research, promoting and strengthening networking among cotton researchers. Dr. Fok advised researchers to visit the ICRA website (<http://www.icracotton.org>) for more details. ICRA is a new organization and Dr. Fok invited the cotton research community to join ICRA. The World Cotton Research Conference-6 was jointly organized with the International Cotton Genome Initiative (ICGI). The Conference comprised of two keynote speakers, eight plenary speakers, 28 specialized concurrent sessions. 471 participants attended the Conference. The World Cotton Research Conference-7 will be held in Izmir, Turkey, in May/June 2020. Dr. Fok's report is a statement of the meeting.

## Seventh Open Session

### *The Role of the Public Sector in the Cotton Industry*

9:00 hr. Thursday, November 3, 2016

In the Chair, Mr. Muhammad Abid Javed, Secretary NFSR in Pakistan

The CHAIR introduced Mr. Aamer Irshad, Chief of the Food and Agriculture Planning Commission, of the Government of Pakistan. Mr. Irshad began by noting the importance of cotton in the economy of Pakistan and mentioned the main two provinces producing cotton: Punjab (73%) and Sindh (26%). Cotton was a smallholder crop, since 81% of cotton growers were cultivating on farm with less than five hectares. He also commented on the response of the government, the investments going to the cotton sector and the policies that support cotton industry in Pakistan. The Federal government is fully integrated by the Ministry of Textile Industry and the Ministry of National Food Security and Research, whose main responsibilities are the development of policies, research, regulation, coordination of the cotton sector, biosafety committee, credit and policy analysis.

At the level of federal government, Pakistan is forecast to provide a total of Rs 1.5 billion through the National Food Security and Research and Rs 32 billion for irrigation water. The provincial governments of Punjab and Sindh also provide support to growers for gene imports, pest management, irrigation, cotton research, and machinery (Rs 93 billion). Farmers also receive a production support for fertilizer, canal irrigation, electricity, farm machinery, pesticides, and agriculture credit. Mr. Irshad's report is a statement of the meeting.

The CHAIR introduced Dr. Terry Townsend,

ex-Executive Director of the International Cotton Advisory Committee (ICAC). Dr. Townsend started his presentation by noting that cotton is an important industry that employs hundreds of millions of people around the world and provides products touched by almost every person on the planet every day. He pointed out that some forms of government intervention have highly deleterious effects, and that government industrial policies that subsidize the production and use of synthetic fibers, and government agencies whose publications and programs disseminate falsehoods about cotton production practices, are doing great disservice to consumers and great harm to producers around the world.

Dr. Townsend highlighted the decrease of the market share of cotton in overall textile fiber consumption, which can only be understood in the context of polyester production in China. The 35-fold increase in polyester production in China in 25 years is the biggest single factor reducing demand for cotton today. The cost of construction of a polyester plant with a capacity of 250,000 tons per year is estimated at about US\$150 million. It has been widely reported that the national, provincial and local governments in China encourage industrial expansion through loans, made by government-owned banks, which are never repaid. The denial of agricultural technology by government agencies is contributing to the strangulation of the world cotton industry and the loss of competitiveness to polyester.

Dr. Townsend stressed out that the Partnership for Sustainable Textiles, an initiative being developed in Germany, is a current example of government action that reinforces campaigns

of demonization against cotton, based on a presumption that biotechnology is wrong, that chemical use is harmful, and that fertilizers are dangerous. He noted that within the structure of the Partnership, a Working Group on Natural Fibers has developed a preliminary set of recommendations for adoption by the Partnership that would use moral suasion and public criticism to put pressure on German retailers to avoid sourcing consumer textile and apparel products made from cotton that is not produced under identity programs, such as organic, Fair Trade, Cotton Made in Africa or BCI. Cotton grown outside these programs, including almost all cotton produced in ICAC member countries, would face discrimination in the international trade by retailers sourcing products for sale in Germany, and eventually the entire European Union.

Dr. Townsend closed his presentation by commenting that to combat threats to cotton, the cotton industry, governments and countries with an interest in cotton must unite and advocate for government policies that do no harm, oppose subsidies to polyester production, and adopt and implement cutting edge technologies that produce increased yields at lower costs, in order to provide fiber to textile mills at prices competitive with polyester. Dr. Townsend's report is a statement of the meeting.

The delegate from BRAZIL asked whether was practical for the cotton industry to take further action at the WTO on the subsidies provided for the polyester sector especially in China, and if the German Textile Partnership could be implemented in other territories of the European Union. Mr. Townsend noted that under the pre-

liminary recommendations developed by the Working Group on Natural Fibers, even cotton grown in Greece, Spain and Turkey would face discrimination in Germany. The danger of the Partnership for Sustainable Textiles is that a government agency is lending its credibility to

the demonization of cotton, and this will hurt all cotton producers.

The delegate of TURKEY asked if the cotton sector should consider the German Textile Partnership as a potential threat and how it should be approach. Mr. Townsend commented that

the threat was serious, since the partnership has announced the intention of encouraging retailers and all countries in the EU to source cotton only from certain origins that comply with the definition of sustainability.

The meeting was adjourned at 10:30 hrs.

## Eighth Open Session

### *Challenges to Cotton: Confronting Inter-fiber Competition*

11:00 hr. Thursday, November 3, 2016

In the Chair, Mr. Kanwar Usman, Director RDA, Ministry of Textile Industry, Government of Pakistan

Ms. Lorena Ruiz, the ICAC Economist, presented a report on confronting inter-fiber competition. She noted that world consumption of all textile fibers increased from 15 million tons in 1960 to a projected 90 million tons in 2015. However, not all fibers experienced the same rate of consumption growth. While non-cellulosic fibers increased at an average growth rate of 7%, cotton increased by only 1.6% annually. As a result, the market share of cotton in total fiber consumption declined from about 68% in 1960, to 39% in 2008 and to only 26% in 2016. The expansion of polyester consumption in both filament and staple has been spectacular over time, especially in China, where polyester filament grew from 600,000 tons in 1990 to 33 million tons in 2015. In India, polyester filament production capacity remained below 1 million tons until 2001. Since then, production capacity has steadily increased and reached 4.5 million tons in 2015. Ms Ruiz presented some preliminary results of the apparel and intermediate products import analysis conducted by Cotton Council International, Cotton Incorporated and the ICAC Secretariat.

She concluded her presentation by presenting six strategies that the cotton industry should implement to counteract the adverse trends in cotton demand: competitive pricing, investment and use of technology, investments in research and development to improve cotton fiber performance, increased sustainability, promotional campaigns, and analysis of trade policy measures to understand the increase of production capacity in the polyester sector. Ms Ruiz's report is a statement of the meeting.

Mr. Sarwar explained that there were two broad categories of fiber: 1) natural, which includes cellulose (e.g., cotton), protein (e.g., silk) and minerals (used primarily in industry); and 2) man-made, which includes natural polymers (e.g., polyester) and synthetic (e.g., nylon). In reviewing the history of cotton production of Pakistan and the world, he noted that in the last 15 years, area has been relatively stable while yield had initially increased greatly before

stagnating. India's and China's share of world cotton production have increased significantly over last 10 to 15 years. While global demand for cotton is not forecast to increase significantly, that for polyester is, particularly for nano-fibers and other advanced technical products. Polyester has in recent years dominated the fiber market and China is the main player. Textile mills are choosing polyester for several reasons: lower price in relation to cotton; ease of adjustment to user requirements; and, given current world production levels, incapacity of cotton to meet all of the world's demand for fiber. Current prices are rather low and input costs are high, so cotton area and production will decrease. Cotton production is subject to great variations in its environment, which can make production volume uncertain, whereas man-made fibers are produced in controlled environments. Cotton is still in demand due to properties such as comfort, hypo-allergenic properties, strength and flexibility. The sector could take several steps to improve the situation: increase yields; focus on providing benefits to all participants in the cotton value chain; reduce cost of production; increase awareness of the beneficial properties of cotton; and announce support prices far enough in advance for farmers to take advantage of them. Mr. Sarwar's presentation is a statement of the meeting.

Mr. Engelhardt noted that while total demand for fiber has increased greatly, synthetic fiber consumption has grown at a much faster rate than cotton since the mid-1990s. Since polyester accounted for three-quarters of fiber consumption, it was a serious threat to cotton. He noted that cotton production has generally declined after seeing a brief resurgence with the adoption of biotech cotton and the declining again. Meanwhile cellulosic fibers experienced an opposite pattern, with production surging from 2000 onward. Cotton's growth came primarily from the increase in yield from adopting biotech, whereas there has been a massive investment into the feedstock for polyester to expand capacity to produce PTA and MEG since the late 2000s. This investment has led to overcapacity in production of polyester, which has a direct downward impact on prices. In contrast, cotton experienced a price surge in 2010/11 due to low stocks. The same pattern of overcapacity leading

to low prices was now occurring with other competing fibers, including nylon and viscose. China is the leader in both cotton and man-made fiber production and consumption, although China is reducing its cotton production and use, as well as investing overseas.

Macroeconomic and demographic factors are neutral for either fiber, although developed countries that have high incomes and consume a relatively large share of cotton have shrinking populations, while developing countries with growing populations have lower incomes and usually consume less cotton. As a result, population growth is not likely to increase cotton consumption significantly. He noted that staple fibers are used not only for yarn but also for non-wovens and filling for upholstery among other things, and that filament yarn production has increased greatly, accounting for 53% of all production last year.

Cotton is strongly influence by political developments, such as the Trans-Pacific Partnership, which has 12 members that are large producers or consumers of cotton and contains a yarn-forward rule that allows for duty free exports if yarn is produced from a member countries' fiber is used. This presents an opportunity to increase consumption. ICAC members represent a large share of world cotton production and could use their influence to raise and stabilize prices, in a manner similar to OPEC. Cotton has an advantage in being a sustainable fiber in comparison with polyester. Significant progress had been achieved, but that cotton still suffered from a negative perception. The weakness comes from the cotton industry itself, which has focused too much on marketing to business rather than to end consumers. The numerous types of sustainable cotton initiatives caused confusion among consumers. Mr. Engelhardt's report is a statement of the meeting.

A delegate from ZIMBABWE asked what would be needed to motivate farmers to grow cotton given the current cotton market and what were the prospects for cotton prices.

Ms. Ruiz replied that the ICAC has an econometric price model, which only forecasts one season ahead. The current forecast for the season ending July 31, 2016 is that prices will range between 60 and 80 cents/lb.

Mr. Macdonald asked about the relation between the increased production of GMO cotton and increased polyester consumption. He also requested that ICAC reinstate the Task Force on Cotton Identity Programs in order to help resolve the confusion about the different types of cotton.

Mr. Engelhardt explained that after the approval of GMO cotton, cotton yields and production grew significantly, which prompted governments to invest in polyester staple fiber.

Mr. Macdonald commented that he thought it would have been the other way around due to the increased competition.

A member from the audience stated that cotton production would need to increase by 4 million tons in order to meet regain its market share, and economics dictated that cotton prices would need to increase in order to encourage production. He requested that ICAC suggest to governments to increase subsidies to farmers, particularly in developing countries and what inquired as to the subsidies available for polyester.

Mr. Engelhardt responded that the impact of subsidies was discussed in the first session. He did not have an overview of all polyester subsidies.

The CHAIR commented that because oil prices are low, polyester prices will stay low. If cotton prices remained at their current low levels, there might be an opportunity for cotton to regain some of its market share.

A member from the audience asked whether China should be a member of ICAC its domination of fiber markets.

Mr. Sette responded that efforts have been made to get China to join, but that country had not shown much interest. He noted that China is not a member of any of the major international

commodity bodies. He stated that ICAC was open to China's membership in ICAC, but this was unlikely to happen in the foreseeable future.

An audience member stated that man-made fibers will likely continue to put pressure on cotton production and wondered which economies (developing or developed) were more vulnerable, given that 70% of cotton is produced in developing countries.

The CHAIR stated that any cotton-producing country would be vulnerable, though developing countries would be particularly so. As a result, all producing countries needed to work together to show that cotton is good for the environment and that polyester has negative side effects.

An audience member asked for comments from the panel on the technical challenges that cotton faces in comparison with polyester, such as durability and the low capacity to wick moisture. He mentioned that Cotton Incorporated, located in the United States, did research on these properties for cotton.

Mr. Macdonald stated that, from his experience in textile manufacturing, the technology existed to produce the properties mentioned, but this was expensive. The focus should instead be on improving the quality and productivity of cotton.

The CHAIR noted that it would be beneficial for the agricultural sector to create links with the textile sector.

A delegate from TAIWAN stated that she does market research on this topic and that Taiwan is mainly focused on man-made fibers, although it does import cotton and cotton yarn. She mentioned that textile companies in Taiwan tend to blend both cotton and polyester to create fabric with quick drying properties for outdoor and

sportswear retailers and wondered whether there was a way for cotton and polyester to work together for the benefit of both. She was interested in more research about this topic from ICAC.

Ms. Ruiz stated that blends were on the increase, but that the share of cotton in them has declined. Once the percentage of cotton in a blend falls below 50%, it was no longer considered a cotton article by the Harmonized System codes. Given the price differential between cotton and polyester, it will be hard to increase the cotton content in blends.

The delegate from INDIA commented that technical textiles are becoming increasingly important and wondered if this will cause polyester consumption to further grow, thereby creating further challenges for cotton. She asked if it would be possible to create further categories of blended fiber articles to better understand how much of each type is being consumed. She noted that a lot of data was shared during the presentations and asked if participants would be able to access it later.

The CHAIR noted that all presentations would be placed on the ICAC website and he appreciated the comment on technical textiles, which merited further investigation.

Ms. Ruiz responded that she had presented preliminary results from an ongoing study. She noted that much information was lacking, particularly from important fiber consumers, such as Vietnam, China, Indonesia, and Bangladesh. To obtain more detailed information for blends, the harmonized tariff schedule would need to be revised. She was working with to interpret the available data she had and noted that the next part of the study would also look at policy.

## Meeting of the Steering Committee

9:00 hr. Friday, November 4, 2016

Ms Claudia Fontana Tobiassen, Chairperson of Standing Committee, in the Chair

### Approval of the Final Statement of the 75th Plenary

The CHAIR noted that the Drafting Group had completed its work on the Draft Statement of the 75th Plenary Meeting and asked if delegates were prepared to officially approve the Statement.

The delegate of BRAZIL stated that members had debated the document exhaustively on the previous day and no further debate was necessary. The delegate of the USA supported the suggestion of Brazil.

Seeing no suggestions or comments on the draft statement, the CHAIR found that the Statement of the 75th Plenary Meeting of the ICAC was approved as drafted by the Drafting Committee.

### Election of the Standing Committee Officers

#### Working Paper 1

The CHAIR introduced Working Paper 1, which contained the recommendations of the Nominating Committee for nominations of officers to the Standing Committee.

The Rules and Regulations specify that, when practicable, the First Vice Chair will be nominated to succeed the outgoing Chair and the Second Vice Chair nominated to succeed the First Vice Chair. The current First Vice Chair, Ms. Reenat Sandhu, of India, and Second Vice Chair, Ms. Claudia Fontana Tobiassen, of Switzerland, are available to serve as Chair and Vice Chair, respectively, during 2016/17. Accordingly, the Nominating Committee nominated a Second Vice Chair during its meeting. Based on geographical rotation, representation of importing and export-

ing countries, ability, interest and participation in the work of the Committee and timely payment of assessments, the Nominating Committee put forward the name of Mr. Ali Tahir, Minister (Trade), Embassy of Pakistan, to serve as Second Vice Chair. The Standing Committee endorsed the three nominations during its 543rd Meeting.

The CHAIR asked if there were comments on the report of the Nominating Committee and the endorsement of the Standing Committee, and seeing none she found that Ms. Sandhu, Ms. Fontana Tobiassen and Mr. Tahir were confirmed as Chair, First Vice Chair and Second Vice Chair of the Standing Committee, respectively, for the period from the end of the 75th Plenary Meeting to the end of the 76th Plenary Meeting.

All delegates congratulated the incoming officers. Working Paper 1 is attached.

## Extension of the Contract of the Executive Director

### Working Paper 2

The CHAIR introduced Working Paper 2 “Extension of the Contract of the Executive Director”, which contained a request for the extension of the contract of the Executive Director for two years, until the end of December 2018, at the level of UN grade D-1, step IV.

The Executive Director made a brief presentation on the main developments in the organization since he had assumed the post in January 2014. The main challenge facing the organization was to attract new members, especially countries that imported and processed cotton, in order to make the ICAC even more representative of the world cotton sector.

The Executive Director and all present ICAC staff members left the meeting room at this point in time, in order to allow for a unimpeded discussion of the subject (and respecting a previously established ICAC custom for this particular situation). No minutes were taken of the following deliberation. Upon the return of the Executive Director and staff members, the CHAIR informed that the contract extension had been approved. She thanked the Executive Director for his work in leading the ICAC. Working Paper 2 is attached.

## Topic of the 2017 Technical Seminar

### Working Paper 3

The CHAIR introduced Working Paper 3, which contained three proposals from the Secretariat to the Committee on Cotton Production Research as to possible topics of the Technical Seminar to be held during the 76th Plenary Meeting in 2017. During its meeting after the Technical Seminar, the Committee on Cotton Production Research had recommended the topic “Opportunities and Challenges for Technology Transfer”.

The CHAIR asked if there were any objections to the proposal of the Committee on Cotton Production Research, and seeing none she declared approved the topic of “Opportunities and Challenges for Technology Transfer”. Working Paper 3 is attached.

## Uncollected Assessments of Member Governments of the ICAC

### Working Paper 4

The CHAIR requested the Executive Director to report on the situation of uncollected assessments of ICAC members.

The Executive Director introduced Working Paper 4, which contained the situation of uncollected assessments as of October 28th, 2016.

One change had occurred since the document was circulated: the organization had collected \$52,275 for payment of Sudan’s 2015/16 assessment and other obligations. As a result, Sudan was now fully compliant with all its financial obligations to the organization.

The Executive Director then proceeded to describe the situation of four Members with arrears from prior years: Brazil, Mozambique, Nigeria and Tanzania.

Brazil had been suspended on 1 July 2016, since its arrears exceeded 24 months. It had since paid in full the arrears from fiscal year 2014/15 and was duly reinstated on 7 October 2016. It now had an unpaid balance of \$93,700 from fiscal year 2015/16. The Brazilian Congress has recently passed a law authorizing payment of more than US\$1 billion in arrears to various international organizations. The ICAC expected to receive a further payment in the near future.

Mozambique had not paid in full its assessment for 2015/16, leaving an unpaid balance of \$5,309. The Coordinating Agency had informed the Secretariat that payment would be made at the beginning of 2017.

Tanzania had an unpaid balance of \$23,200 from fiscal year 2015/16. The Coordinating Agency in Tanzania had informed that it faced financial difficulties, but remained committed to membership in the ICAC. Payments would be made on an installment basis until Tanzania is current with its obligations.

Finally, he turned to the case of Nigeria, which was suspended on 31 March 2015 for arrears in payments. After a partial payment of \$22,011 on 19 June 2015, the membership of Nigeria had been reinstated, subject to an agreement to pay outstanding arrears in four annual installments as well as annual assessments (see SC 538-003/15). As a result of this agreement, Nigeria should have paid \$11,500 (pro rata assessment for 2015/16) by 5 March 2016 and \$16,197.25 (first installment of arrears) by 1 July 2016. In addition, the annual assessment for fiscal year 2016/17 in the amount of \$27,800 was now also due. None of these payments has been made. Consequently, the total arrears of Nigeria are now \$55,497.25.

In correspondence, the Coordinating Agency for Nigeria had informed:

*The Nigerian economy is experiencing some difficulties due to the fall in oil prices and continuous destruction of our oil pipelines and installations by militants in southern Nigeria, which is the area producing the nation’s crude oil. The low proceed from crude oil exports is seriously affecting the implementation of the nation’s 2016 budget.*

*I want to inform you that up till now the Federal Ministry of Finance has not released the funds meant for payment of annual contributions to international commodity organizations. We have contacted a senior official of that Ministry to assist us to facilitate the release of the funds.*

Nigeria had been previously suspended and then readmitted, subject to compliance with a schedule for payment of outstanding arrears. Nigeria had now fallen behind in its repayment schedule and, according to the terms of Section 4g of Article II of the Rules and Regulations, was once

again liable to suspension. In its 543rd Meeting the Standing Committee gave Nigeria the opportunity to comply with its obligations before the Plenary, at which point the matter would be discussed again, either in the Steering Committee or in the Standing Committee. No payment had been received in the interval between the last Standing Committee meeting and the Plenary.

The delegate of BRAZIL proposed that this matter should be handled by the Standing Committee, which was in a better position to monitor developments.

The delegate of AUSTRALIA concurred with the suggestion made by Brazil, remembering that the principle of non-forgiveness of debts should be maintained. He hoped that the Standing Committee would be able to find a creative solution that avoided a new suspension of the membership of Nigeria.

Seeing no other comments, the CHAIR found that the suggestion of Brazil was approved and noted that the arrears of Nigeria would be taken up by the Standing Committee. Working Paper 4 is attached.

## Future Plenary Meetings

### Working Papers 5 & 6

The CHAIR requested the Executive Director to introduce the subject.

The Executive Director explained that Working Paper 5 contained a communication from the Government of Mozambique to the effect that financial considerations prevented it from hosting the 76th Plenary Meeting, as had been previously planned.

He had consequently approached other ICAC members about the possibility of their hosting the meeting. The Government of Uzbekistan had immediately expressed its willingness to host the meeting, which was formalized in the letter contained in Working Paper 6.

The representative of UZBEKISTAN reiterated the terms of the letter of invitation, which would be a great opportunity to celebrate his country’s 25th year of membership in the ICAC.

The CHAIR thanked Uzbekistan for the invitation and opened the item for discussion. The delegates of BRAZIL, BURKINA FASO, EGYPT, KENYA, PAKISTAN, SUDAN, TAIWAN, TURKEY, UGANDA and the USA expressed their gratitude to Uzbekistan for the offer, especially since it had been made at such short notice. Noting the enthusiastic response of members to the invitation made by Uzbekistan, the CHAIR considered that the proposal was approved.

Working Paper 5 and Working Paper 6 are attached.

Seeing no other business, the CHAIR adjourned the meeting at 10:30 hrs.

## ATTACHMENTS

### Working Paper I

#### Election of Standing Committee Officers Recommendation from the Standing Committee

A nominating committee conducted a meeting at the Office of the Secretariat on August 18, 2016, to propose a slate of officers for the Standing Committee for the coming year. Delegates Cameroon, India, Mali, Pakistan, Sudan, Switzerland, Taiwan and the USA attended the meeting. The Executive Director attended both meetings, and Mr. James Johnson, delegate of the USA, was asked to serve as Chair of the Nominating Committee.

The Rules and Regulations specify that when practicable, the first vice chair will be nominated to succeed the outgoing chair and the second vice chair nominated to succeed the first vice chair. The current first vice chair of the Standing Committee, Ms. Reenat Sandhu, Minister, Embassy of India, will be able to serve as an officer next year. The current second vice chair, Ms. Claudia Fontana Tobiassen, First Secretary (Trade and Commercial Affairs), Embassy of Switzerland, will also be able to serve as an officer during 2016-17. Accordingly, there was a consensus to nominate Ms. Sandhu to serve as Chair and Ms. Fontana Tobiassen to serve as First Vice Chair.

The Rules and Regulations say that the election of officers should take into account:

1. Rotation on as broad a geographical basis as possible.
2. Adequate representation to importing and exporting countries.
3. Ability, interest and participation in the work of the Committee.
4. Timely payment of assessments.

After consideration of these factors, the Nominating Committee agreed that Mr. Ali Tahir, Minister (Trade), Embassy of Pakistan, should be nominated to serve as second vice chair. Mr. Tahir arrived in Washington at the beginning of 2016 and became the delegate of Pakistan to the Standing Committee. Members of the Nominating Committee noted that delegates from Pakistan over many years had always taken a strong interest in the work of the ICAC, and that by nominating officers early in their assignments to embassies in Washington there would be a greater chance that succession from second vice chair-to-first vice chair-to-chair could be completed. It was noted that the proposed slate of officers represented a good geographic balance of member countries and included both producing and consuming countries.

The nominations received provisional approval

from the Standing Committee at its 543rd meeting on September 9, 2016.

Accordingly, the Standing Committee proposes the following slate of officers to the plenary meeting for the period from the end of the 75th Plenary Meeting in 2016 to the end of the 76th Plenary Meeting in 2017:

- Ms. Reenat Sandhu, India, for Chair,
- Ms. Claudia Fontana Tobiassen, Switzerland, for First Vice Chair.
- Mr. Ali Tahir, Pakistan, for Second Vice Chair

### Working Paper II

#### Extension of the Contract of the Executive Director

##### Recommendation from the Standing Committee

##### Background

According to Article VII of the Rules and Regulations of the ICAC, the Secretariat shall be headed by an Executive Director who shall hold office during the period of his/her contract of employment. Article II (a) of the Staff Regulations of the ICAC states that the basic emoluments and contract of the Executive Director shall normally be determined by a Plenary Meeting on the recommendation of the Standing Committee.

The current contract for the Executive Director expires December 31, 2016.

In August 2016, the Executive Director requested the Standing Committee to approve a two-year extension of his current contract at the level of UN grade D-1 Step IV. The Executive Director is currently paid at the level of UN grade D-1 Step III, but if he were employed in the UN system he would be eligible for a promotion to Step IV as of January 1, 2017 based on time-in-service.

At its 544th Meeting in October 2016, the Standing Committee agreed to recommend to the Plenary Meeting that the contract of the Executive Director be extended for two years until December 31, 2018 at the level of UN grade D-1, Step IV.

Accordingly, the Standing Committee recommends that the Advisory Committee approve a two-year extension of the contract for the Executive Director at the level of UN grade D-1 Step IV for the period beginning January 1, 2017 and ending December 31, 2018.

##### Action

The Steering Committee is requested to consider and, if appropriate, to approve the contract extension.

### Working Paper III

#### Topic of the 2017 Technical Seminar

##### Proposals from the Secretariat to the Committee on Cotton Production Research

The following themes are suggested as possible topics for the 2017 Technical Seminar:

##### Future of Biotech Cotton

The biotechnology of cotton through genetic engineering has opened a new era of cotton production, including 'directed breeding.' If a specific desirable gene is identified in cotton, other crops or organisms, genetic engineering has a tool to isolate and induct that gene into the cotton plant. Insect-resistant and herbicide-tolerant varieties have been extensively used and now cover more than 70% of the world area planted to cotton. However, no new country has commercialized biotech cotton since 2011/12 and no new feature has been added since insect-resistant and herbicide-tolerant cottons were introduced over 20 years ago. Though newer genes and stacking of genes has continued, the industry is looking for more innovations. Resistance to insect-resistant genes is widespread in India and Pakistan. The same situation will arise, if it has not already done so, in China, where the pink bollworm was as notorious as in India and Pakistan prior to the use of biotech cotton. No new biotech feature is expected to be released for commercial use in the next few years. The 2017 Technical Seminar will discuss these limitations with a focus on the future of biotech applications in cotton.

##### Opportunities and Challenges for Technology Transfer

Cotton research has progressed at a much faster pace than the methods used to transfer new technologies to growers. The technology packages recommended for adoption are no longer limited exclusively to material issues, such as newer varieties, fertilizer use, etc. Newer methods of mass communication must be developed and tested. Methods must be developed to reach as many growers as possible. Technology transfer, as such, has suffered from lack of innovation. On the receiving end, farmers are receptive, but reaching each and every one of them remains a challenge. Growers have to be motivated to actively seek new technologies, instead of waiting to see when a technology transfer agent gets round to transmitting the message. The philosophy underlying technology transfer also needs to be changed. Messages must be cost-effective and the focus must shift to the resultant interactions among materials before a new materials-based technology can be developed and commercialized. Optimum utilization must also take into account aspects related to the sustainability of materials. The new economic and scientific

context requires a more innovative and complex model for transferring technology. The development of electronic media, both for access to online information and for personal outreach via mobile phones, is revealing new challenges and opportunities. Instead of describing current methods of technology transfer, the seminar will focus on new options and methods to effectively disseminate production technology to large and small growers.

### Reducing the Contamination of Cotton

Issues involving contamination are not new to the cotton industry. They were and are important and will continue to be so until contamination is minimized to a level acceptable to industry. Over time, the spinning and textile industries have become more sensitive to contamination with foreign matter. The inclusion of plant material from the field is unavoidable, although specific measures can be implemented to minimize trash pick-up from the field. Handpicked cotton has less plant material, but is prone to a higher level of contamination after picking. Cotton quality is lowered by a variety of contaminants added to cotton during the process of harvesting, transporting seedcotton to gins, ginning and handling of lint. Some contaminants can be removed during pre- and post-cleaning operations in the gin, while others are difficult to eliminate. Among the most important contaminants are seed coat fragments. These are portions of cotton seeds, broken from mature as well as immature seeds, which are usually difficult to remove. Seed coat fragments entangle with fibers and result in lower cleaning efficiency, higher breakage during spinning and uneven yarn, in addition to having undesirable effects on fabric appearance. Contamination with synthetic materials is highly dangerous and more difficult to eliminate. Based on the discussions in the 75th Plenary Meeting, the subject will be further discussed with emphasis on production practices and methods to minimize contamination. The issue of effective detection and handling of contaminants in the spinning and textile industries will be a part of the Technical Seminar papers.

- Advance payments received for assessments for 2017/18 onwards (Table 3); and
- Unpaid assessments of Members that have been suspended or withdrawn (Table 4).

### Action

The Steering Committee is requested to consider this document.



Standing Committee  
Washington, DC

## INTERNATIONAL COTTON ADVISORY COMMITTEE



Attachment 1  
28-Oct-16

Table 1: Uncollected Assessments of Member Governments of ICAC  
As of 10/28/16

| Country       | Current year<br>2016/17 | Prior year<br>2015/16 | Prior year<br>2014/15 | TOTAL            |
|---------------|-------------------------|-----------------------|-----------------------|------------------|
| ARGENTINA     | 30,900                  |                       |                       | 30,900           |
| BRAZIL        | 108,000                 | 93,700                |                       | 201,700          |
| BURKINA FASO  | 38,100                  |                       |                       | 38,100           |
| CAMEROON      | 32,200                  |                       |                       | 32,200           |
| CHAD          | 27,300                  |                       |                       | 27,300           |
| CÔTE D'IVOIRE | 38,900                  |                       |                       | 38,900           |
| EGYPT         | 35,200                  |                       |                       | 35,200           |
| KAZAKHSTAN    | 28,700                  |                       |                       | 28,700           |
| KENYA         | 23,800                  |                       |                       | 23,800           |
| KOREA, REP.   | 13,995                  |                       |                       | 13,995           |
| MOZAMBIQUE    | 27,500                  | 5,309                 |                       | 32,809           |
| NIGERIA*      | 43,997                  | 11,500                |                       | 55,497           |
| PAKISTAN      | 70,677                  |                       |                       | 70,677           |
| RUSSIA        | 29,900                  |                       |                       | 29,900           |
| SOUTH AFRICA  | 25,000                  |                       |                       | 25,000           |
| SUDAN**       | 40,100                  | 8,400                 |                       | 48,500           |
| TANZANIA      | 28,300                  | 23,200                |                       | 51,500           |
| USA           | 276,300                 |                       |                       | 276,300          |
| UZBEKISTAN    | 85,000                  |                       |                       | 85,000           |
| ZIMBABWE      | 31,800                  |                       |                       | 31,800           |
| <b>TOTAL</b>  | <b>1,035,669</b>        | <b>142,109</b>        | <b>0</b>              | <b>1,177,778</b> |

|                          |                  |                |          |                  |
|--------------------------|------------------|----------------|----------|------------------|
| <b>TOTAL</b>             | <b>1,035,669</b> | <b>142,109</b> | <b>0</b> | <b>1,177,778</b> |
| Outstanding July 1, 2016 | 1,690,097        | 188,103        | 98,600   | <b>1,976,800</b> |
| Received                 | 654,428          | 45,994         | 98,600   | <b>799,022</b>   |
| Forecast (budget)        | 1,300,000        | 175,000        | 75,000   | <b>1,550,000</b> |
| Difference               | 645,572          | 129,006        | -23,600  | <b>750,978</b>   |

Assessments become due on the first day of the fiscal year (i.e. July 1) and are payable in 90 days.

\*Value for 2016/17 includes \$27,800 annual assessment and \$16,197.25 relative to 1st instalment of repayment of arrears (as per SC-538-003/16).

\*\*Value for 2016/17 includes \$24,900 annual assessment and \$15,200 relative to 1st instalment of repayment of arrears (as per SC-535-004/15).

Table 2: Payments Due in Forward Years

| Member  | Due date  | Amount    |
|---------|-----------|-----------|
| Sudan   | 31-Jul-17 | 15,200.00 |
| Nigeria | 31-Dec-17 | 16,197.25 |
| Sudan   | 31-Jul-18 | 8,400.00  |
| Nigeria | 31-Dec-18 | 16,197.25 |
| Sudan   | 31-Jul-19 | 15,200.00 |
| Nigeria | 31-Dec-19 | 16,197.25 |

Table 3: Advance Payments Received

| Member       | Date | Amount      |
|--------------|------|-------------|
|              |      |             |
|              |      |             |
|              |      |             |
|              |      |             |
| <b>TOTAL</b> |      | <b>0.00</b> |

Table 4: Unpaid assessments of Members  
that have been suspended or withdraw

| Amount (US\$) | Withdrawal /<br>Suspension<br>Date |
|---------------|------------------------------------|
| Azerbaijan    | 22,025.00                          |
| Bangladesh    | 12,400.00                          |
| Colombia      | 11,150.00                          |
| El Salvador   | 34,300.00                          |
| Guatemala     | 89,408.00                          |
| Honduras      | 32,105.00                          |
| Hungary       | 34,700.00                          |
| Iran          | 104,946.59                         |
| Iraq          | 26,800.00                          |
| Mexico        | 18,700.00                          |
| Nicaragua     | 94,006.00                          |
| Paraguay      | 60,192.00                          |
| Philippines   | 20,000.00                          |
| Peru          | 132,424.00                         |
| Senegal       | 44,500.00                          |
| Syria         | 79,053.00                          |
| Yugoslavia    | 190,811.00                         |
| Zambia        | 43,400.00                          |
| <b>TOTAL</b>  | <b>1,007,520.59</b>                |

## Working Paper IV

### Uncollected Assessments of Members of the ICAC

#### Background

This document contains the following information on the status of payment of financial obligations to the ICAC by Members:

- Uncollected assessments of Members included in the Schedule of Assessments for 2016/17 (Table 1);
- Payments due in future fiscal years (Table 2);

## Working Paper V & VI

### Future Plenary Meetings

#### Communication from Mozambique regarding the 76th Plenary Meeting

##### Background

During the 73rd Plenary, the Steering Committee approved the offer of Mozambique to host the 76th Plenary in 2017.

On 26 October 2016, the Secretariat received a communication (attached) from Mozambique cancelling its offer to host the Plenary due to unforeseen circumstances.

##### Action

The Steering Committee is requested to take note of the communication.

#### Uzbekistan offer to host the 76th Plenary Meeting

##### Background

On 28 October 2016, the Secretariat received a communication (attached) from Uzbekistan offering to host the 76th Plenary.

##### Action

The Steering Committee is requested to consider and, if appropriate, to approve the offer to host the 76th Plenary.



AK-2/1398

28.10.2016 u

**Jose Sette**  
Executive Director of the International Cotton Advisory Committee

**Dear Mr. Sette,**

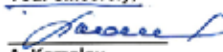
On behalf of the Organizing Committee we would like to express you our gratitude for participation of Mr. Andrei Guitchounts in the XII<sup>th</sup> International Uzbek Cotton and Textile Fair.

In framework of the Plenary Session speech by ICAC representative became a vital source of information on the prospects of the global cotton market.

In the meantime, permit us to express our sincere acknowledgment for your suggestion regarding hosting the 76<sup>th</sup> Plenary meeting of ICAC in the Republic of Uzbekistan. Indeed, organizing this event in our country next year would be a great opportunity to celebrate the 25th anniversary of becoming the Republic of Uzbekistan a member country of ICAC.

In this regard, we inform our readiness to host this important event in October of 2017 in Tashkent jointly with following International Uzbek Cotton and Textile Fair.

Your sincerely,

  
**A. Kamalov**  
Chairman of the Board

## Closing Plenary Session

11:00 hrs, Friday, 4 November 2016

Mr. Hassan Iqbal, of Pakistan, in the Chair

### Reading of the Final Statement of the 75th Plenary Meeting

The CHAIR called the Closing Plenary Session to order and began the meeting by asking the Executive Director to read the Final Statement of the 75th Plenary Meeting, which is an integral part of these Proceedings. The delegate of BRAZIL took the floor to propose that, in the interests of time, the Statement should be considered as read. Seeing no objection, the CHAIR took the Final Statement as read.

### Invitation from Uzbekistan, host of the 76th Plenary Meeting

The delegate of UZBEKISTAN thanked Members for their selection of his country as host of the 76th Plenary Meeting. On behalf of his government, he invited all ICAC delegates to taste the hospitality of Uzbekistan next year.

### Closing Comments by India, host of the 74th Plenary Meeting

The delegate of INDIA thanked Pakistan for the warm welcome given to delegates and the

excellent organization of the event. The Plenary had covered a wide range of topics of great importance to the world cotton sector and generated a fruitful exchange of ideas. She extended her best wishes to Uzbekistan in its role as host of the next Plenary and thanked the Secretariat for its hard work in organizing the event.

The delegate of PAKISTAN said that her country was honored by the presence of such distinguished guests and hoped that all of them had felt as if they were in their homes.

### Closing Comments by Other Countries

The Executive Director thanked the Pakistani people for the warm welcome to ICAC delegates and expressed his appreciation to all the members of the Organizing Committee, who had provided excellent support during the preparation and execution of the event.

### Closing Comments by the Chair on behalf of Pakistan

Before his closing remarks, the CHAIR presented a plaque to Dr. Rafiq Chaudhry, Head of the Technical Information Section of the ICAC, in recognition of his distinguished services to the

organization as this would be his last Plenary before retirement.

Dr. Chaudhry thanked the Organizing Committee for the recognition bestowed on him. He considered that the organization of the Plenary had been a great learning experience for the country and especially for the Pakistan Central Cotton Committee.

The CHAIR thanked all delegates and observers who had honored his country by attending the 75th Plenary. The agenda had addressed many pressing issues facing the world cotton sector and raised many ideas for concrete action over the coming year. He was sure that delegates would return to their capitals enriched by exchanges they had witnessed. He thanked the ICAC Secretariat for its inestimable assistance in the preparation of the event. The CHAIR concluded by thanking all the different Pakistani agencies and organizations involved in the organization and execution of the event. Although great effort had been required by all of them, the satisfaction with the results was even greater.

The CHAIR declared the 75th Plenary Meeting adjourned at 11:45 hrs.

## First Breakout Session

### *Reducing Contamination in Picking & Handling*

11:00 hrs., Tuesday, November 1, 2016

Chair: Mr. Sohail Harral, Senior Vice President, Pakistan Ginners Association (PCGA)

Speakers:

- Mr. Karan Prem Lohana, Sindh Agro Industries, "Cotton Contamination."
- Mr. S. Shabbir Raza, Pakistan Cotton Standards Institute, "Reducing Contamination in Picking and Handling."

Mr. Karan Prem Lohana noted that cotton is highly significant in the economy of Pakistan, but contamination results in losses of about \$3 billion annually in the cotton value chain. The cost of removing contamination from cotton lint is estimated at 3 cents per pound.

Inefficient quality control, lack of monitoring and supervision, lack of quality assurance systems and most importantly, a lack of awareness, are the reasons for significant contamination in Pakistan cotton.

Contamination in cotton can consist of many things, including metal parts, polypropylene, feathers, human hair, clothing and bits of fabric, wrappers, cigarette residues, coir and jute, oil,

sand and stones and other things. The average level of contamination in cotton in Pakistan is 19 grams per bale of 175 kilograms.

The solutions to the problem of contamination are to pick cotton at the right time of day, using the right techniques, to handle, store and move cotton using proper hygiene, and to gin cotton properly. However, in order to encourage farmers, country merchants and ginners to employ proper techniques, they must be educated as to the importance of producing contamination-free cotton, and incentives must be provided to encourage adoption of such practices.

There have been numerous projects in Pakistan to reduce contamination funded by state and national governments in Pakistan, bilateral aid programs and education programs funded by international multilateral agencies. Many of these projects have resulted in significant reductions in contamination to under 2 grams per 175-kilogram bale, but the benefits tend to dissipate after each project has ended. Mr. Lohana's report is a statement of the meeting.

Mr. S. Shabbir Raza reported that contamination in cotton is the most serious problem facing the

spinning industry. He estimated that economic losses from contamination cost the cotton value chain, from raw cotton to garments, in Pakistan \$1.4 billion per year. He noted that several campaigns to produce contamination-free cotton or clean cotton have been launched in certain districts in Punjab in 2001, and in Sindh and Punjab in 2005/06, 2006/07 and 2007/08. As reported by Mr. Lohana earlier, each campaign was successful in reducing contamination from an average of 19 grams per bale to less than 5 grams per bale in one case and less than 2 grams per bale in other cases.

Mr. Raza described an extensive work plan consisting of administrative, operational and marketing arrangements to produce high quality, clean cotton. Under the work plan, willing ginners and growers register with PCSI and agree to follow recommended procedures, growers receive price premiums, PCSI supervises operations at each gin and evaluates seed cotton and lint quality, and buyers willingly pay premiums for high quality, contamination-free cotton. PCSI has implemented parts of the work plan, and the Karachi Cotton Association (KCA) has switched its variety based marketing system to a system

based on grades subject to quality premiums and discounts. PCSI has established a network of cotton testing laboratories in various locations in Punjab and Sindh with Uster HVI 1000s and Shirley Analyzers. And, PCSI has launched training and awareness campaigns. Mr Raza's report is a statement of the meeting.

There was robust discussion with numerous questions following each presentation. It was noted that Pakistan is not the only country with a contamination problem, and that there is no cotton that is truly contamination free. However, it was acknowledged that the problem in Pakistan is relatively severe.

There was agreement in the Breakout Session that the keys to reducing contamination are improved awareness and incentives.

However, it was noted that the marketing system

in Pakistan undermines efforts to provide incentives to growers. In Pakistan, farmers sell to intermediaries (middlemen or country merchants) who aggregate lots of seed cotton from multiple small holders for delivery to gins. Consequently, it is difficult to identify sources of contamination and reward delivery of clean seed cotton upon inspection at gins. Furthermore, farmers present in the Breakout Session reported that picking costs are already high, making the payment of additional incentives to pickers untenable. Some growers felt that machine-picking is the ultimate solution to reducing contamination. It was also reported by ginners in the Breakout Session that even when they go to extensive efforts to ensure contamination-free cotton, they could not find textile mill buyers willing to pay premiums for such cotton.

Regarding the work plan developed by PCSI, one ginner indicated that market participants lack confidence in the accuracy of HVI readings provided by PCSI, and PCSI was encouraged to participate in the Round Trials conducted under the auspices of the Task Force on Commercial Standardization of Instrument Testing of Cotton (CSITC).

In Conclusion, the Chair noted that contamination is a serious problem in Pakistan, and that the keys to improvement are increased awareness and harnessing market incentives. He noted that a more streamlined market structure is needed so that farmers can be rewarded for delivering seed cotton without contamination. The Chair advocated for implementation of the Cotton Control Act, and he called upon "government" to assist industry in the achievement of these objectives.

## Second Breakout Session

### *Enhancing Efficiency in the Cotton Value Chain*

11:00 hrs, Wednesday, November 2, 2016

Chair: Mr. Shan Ali Junejo, Farmer in Sindh Province and Director of the Pakistan Central Cotton Committee

Speakers:

- Mr. Peter Wakefield, Wakefield Inspection Services, China, "Paperwork and Efficiency – Do they go hand in hand?"
- Ms. Rubina Wasti, Senior Joint Secretary, Ministry of Textile Industry, Islamabad, "Enhancing Efficiency in the Cotton Value Chain (a Pakistani Perspective)"
- Mr. Mukammad Masood Akhtar, Coordinator, WWF-Pakistan, "Promoting Resource Efficiency in Pakistan Cotton Ginning Sector."

Mr. Peter Wakefield observed that paperwork linked to the movement of cotton is associated with trade restrictions, including tariffs, quotas, import and export licenses, subsidies, local content requirements, and embargos. Many of these requirements are associated with conformity and pre-shipment requirements, plus inspection and certification procedures on arrival. Each exchange of papers, each required stamp or signature, each face-to-face interaction, creates the opportunity for corruption. There will always be individuals who will be willing to pay to speed up or slow or to facilitate or block. By eliminating the involvement of the human hand, electronic documentation can enhance efficiency and lower costs, and make corruption more difficult.

One document that is required for all cotton shipments is a phytosanitary certificate. On the recommendation of the Private Sector Advisory Panel, the ICAC has been urging countries to

adopt the FAO model phytosanitary certificate for trade in cotton since 2009. However, an even more effective reform would be to recognize that phytosanitary practices in each exporting country do not vary from shipment to shipment. Accordingly, individual phytosanitary certificates for each shipment are unnecessary and could be replaced with a "confirmation of compliance" with harmonized standards for fumigation and phytosanitary practices. Thus any shipment originating from a country in compliance with such a harmonized standard would not need an individual piece of paper for each shipment.

In addition to enhancing efficiency by reducing documentation, efficiency can also be enhanced by planning and pre-clearance to reduce idling time upon arrival.

The modern textile industry operates with data on cotton quality provided by High Volume Instruments (HVI) to test strength, length, length uniformity, micronaire and color. National systems of HVI testing 100% of bales in conformance with Standardized Instrument Testing of Cotton (SITC) procedures, coupled with permanent bale identification tags using bar codes, with quality data stored electronically in a central database, are crucial to efficiency. Countries that persist in the use of parochial systems of classing a percentage of bales and storing data by hand as things have been done for decades and centuries are adding to costs and reducing competitiveness. Mr Wakefield's report is a statement of the meeting.

Ms. Rubina Wasti noted that the cotton value chain represents a long series of sequential activities. Governments usually focus on improving productivity and efficiency within each activity, but efficiency in the value chain

also requires enhancing communication and transportation between each activity. The value of textile exports from Pakistan has stagnated at roughly \$10 billion during the last decade because of a combination of weak demand and a lack of competitiveness.

The Government of Pakistan is taking steps to enhance efficiency in the cotton value chain. The Government has developed a Textile Policy 2014-19 which includes better data dissemination and coordination among banks and customs authorities, training of farmers, establishing a ginners institute, improving planting seed quality, use of biotechnology, reduction of various taxes and provision of long term financing for technology investments. The government is encouraging environmentally friendly cotton production and strengthening regulation of chemicals, and encouraging adoption of a worker training program. The government is working with farmers, ginners, spinners, manufacturers and trade bodies to enhance communication and coordination. Ms. Wasti's report is a statement of the meeting.

Mr. Mukammad Masood Akhtar reported on efforts by the World Wildlife Fund to encourage sustainable ginning practices in Pakistan. Core areas of action include improving the capacity of gins to source Better Cotton (Cotton produced within the Better Cotton Initiative), improving the engineering efficiency of gins and to improve the working conditions within gins. He reported that 228 gins in Pakistan are participating in the program as of 2016. A list of top 10 better ginning practices includes: leakage rectification of suction and delivery ducts, replacement/repair of suction fans, installation of a conveyor for overflow of seed cotton, installation of a conveyor

after beater for seed cotton, replacement of saws, relocation of delivery fan-bend remove, replacement of space blocks and ribs, improvement in power factor plant, and replacement of loose belts, bearings and worn shafts. Each investment costs between PKR100,000 and PKR950,000 (US\$1,000 and US\$9,500) and payback periods range from 20 days to 150 days. Gins participating in the program saw savings in electricity and increases in productivity per hour and production each season. Participating ginners also achieved improved workplace safety. During 2015/16, production by Better Cotton Ginners amounted to 143,000 tons of lint. Mr. Akhtar's report is a statement of the meeting.

Following the three presentations, the Chair invited questions and comments.

A participant in the Breakout Session noted that a brochure distributed by WWF in its trade booth at this plenary meeting (Better Cotton Projects of WWF-Pakistan) contains assertions about cotton production practices that range from mildly exaggerated to egregiously inaccurate. The brochure overstates insecticide and pesticide use

in cotton production by factors of approximately 100%. The brochure alleges that crop protection chemicals are persistent in the food chain and are absorbed in human bodies, which is not true. And, the brochure overstates the amount of chemical used to produce a cotton t-shirt by a factor of more than 100 (more than 10,000%). It was noted that errors of these magnitudes undermine the credibility of WWF-Pakistan, and it was asked why any of the statistics included in the presentation should be believed. A representative of WWF-Pakistan sitting in the audience of the Breakout Session said that the statistics had "come from Germany," and he pledged to investigate the sources for those statements. There was broad agreement that relevant metrics and accurate statistics should be used in evaluating the sustainability of cotton production.

A spinner in the Breakout Session asked what can be done to enhance demand for cotton products. Ms. Wasti urged a multi-pronged approach to enhance productivity and efficiency, improve the sustainability of production practices, and to provide training to stakeholders.

Another spinner asked for more information about the Better Ginning Program (BGP). He asked for clarification on what mechanical improvements are possible in cotton gins under the BGP, and he asked why roller gins are not used in Pakistan.

Mr. Akhtar explained that the Better Ginning Program is part of the Better Cotton Initiative. Better Ginning includes reducing energy use, improving mechanical efficiency, and improving working conditions.

A ginner in the Breakout Session said that roller ginning is primarily used on Extra Long Staple cotton, not upland varieties like those grown in Pakistan. He said that the choice of ginning technology is a complex technical question that involves issues associated with trash and contamination content of the seed cotton, length and character of cotton lint, knowledge of ginners, the marketing system into which cotton will be sold, and other issues. Roller ginning has been tried in Pakistan, but the experiments were not successful.

## Third Breakout Session

### *New Challenges to Cotton: The Perspective of Developing Countries*

9:00 hrs, Thursday, November 3, 2016

Chair: Dr. Abid Mehmood, Director General, Ayub Agricultural Research Institute, Faisalabad, Pakistan

Speakers:

- Dr. Michel Fok, Deputy Head, Annual Crops Department, Agronomist, Economist, Centre de coopération internationale en recherche agronomique pour le développement (CIRAD), "Smallholding Production of Cotton: Challenges Ahead."
- Dr. Khalid Abdullah, Cotton Commissioner, Government of Pakistan, "Paradigm Shift in Cotton Production Pattern of Developing Countries."

Dr. Abdullah observed that developing countries account for half of world cotton exports, three-quarters of world production, and nearly all of world cotton imports and consumption. Cotton and cotton textiles account for measurable shares of national GDP and large shares of national export earnings in many developing countries. For instance, in Pakistan, cotton production accounts for 0.7% of national GDP, and cotton textiles account for 60% of export earnings.

Factors affecting cotton production and trade include subsidies and support measures, technology adoption, intellectual property rights and biosafety protocols, mechanization, competing fibers, farm size and patterns of land ownership, and costs of production.

The national cotton reserve in China is the biggest source of distortion in the world cotton market today. Even though subsidies in the United States and Europe have been greatly reduced or restructured to be less distorting in the last decade, they still distort production and trade.

There are 16 separate trade agreements registered with the WTO that affect agriculture and textiles, ranging from the Agreement on Agriculture (AoA), negotiated during the Uruguay Round of GATT, to the Information Technology Agreement. Dr. Abdullah reported that cotton production and trade has increased in developing countries that observe these agreements, and he advocated increased compliance with international agreements and trade rules by Pakistan and other developing countries.

Adoption of biotechnology is a measureable indicator of overall technology adoption. Since commercial introduction in 1996, the use of biotechnology in all crops has increased by 3% per year. As of 2013, 18 million farmers in 27 countries planted crops with biotech traits on 175 million hectares. Over half of all area planted to crops with biotech traits is in developing countries. A lack of biosafety protocols, high technology fees, lack of incentives for public sector development of biotech events and inadequate public funding for research inhibit development of biotechnology in developing countries.

According to the ILO, there were about 140

million children aged 5-14 in paid employment around the world in 2013, and about 60% were working in agriculture.

Loss of market share to polyester is negatively affecting earnings potential in all cotton-producing countries. Since developing countries account for three-fourths of world cotton production, the growth of polyester production has a disproportionately negative impact on producers in developing countries.

Mechanization can increase yields by one-third. Mechanical implements appropriate to smallholder adoption are needed.

Small farm size, ranging from 0.25 hectares in Bangladesh to 10 hectares in Kazakhstan, inhibits technology adoption.

Dr. Abdullah urged developing countries to strengthen their negotiating efforts in the WTO to counter subsidized production. He urged developing countries to adopt biosafety protocols and to redesign intellectual property rights agreements to benefit researchers. He advocated increased funding for public sector research. He urged increased smallholder mechanization and changes in farm structures to increase farm size. Dr. Abdullah's report is a statement of the meeting.

Michel Fok noted that there is great diversity among developing countries, that definitions of "developing" are imprecise, and that there are a wide range in cotton production practices

among developing countries. Accordingly, he felt it more useful to focus on smallholders, rather than trying to describe cotton production practices in developing countries.

Smallholders are characterized by labor intensive production practices, subsistence farming, low levels of education, dependence on rain fed production and high exposure to changes in government policies and programs. Dr. Fok estimates that smallholders account for between two-thirds and three-quarters of world cotton production and area.

Efforts to increase cotton yields and production often ignore integrated cropping patterns common to smallholder production, and production recommendations should integrate cotton into a whole-farm approach. He noted that efforts to mechanize smallholder agriculture were constrained by lack of capital, poor knowledge, and inadequate support for spare parts and maintenance services. An alternative to motorized mechanization are small, hand-operated machines, such as a wheeled seed planting instrument.

Dr. Fok noted that small holders usually lack capital to purchase inputs. Accordingly, organic production practices might be helpful. Such techniques include buffer zones to break up weed, disease and insect populations, planting diversionary crops that attract insects, double cropping and intercropping, and intensive crop rotations to increase land productivity.

However, even smallholders face labor constraints, and there is a need to increase labor productivity. Herbicides can reduce labor requirements, but their efficacy is time-limited and they must be used judiciously timed with development of the plant canopy. Sowing at the correct plant density with certified seeds with high germination can reduce the labor associated with thinning.

Since most smallholders are dependent on rainfall, techniques to conserve and retain moisture should be encouraged. Mulching, diking, and contour planting help conserve/retain on-farm moisture. In contrast, large-scale infrastructure projects to capture rainwater in cisterns, un-

derground storage or large reservoirs require community cooperation or government support. Farmers in the Indian state of Rajasthan are capturing water without political support through the revival of the traditional technique of building 'johads' to capture water. (Johads are earth dams to capture rainfall built along the contours of natural swales.)

Almost all farmers or their families own mobile phones, and these present obvious tools to provide more effective extension services.

Smallholders are vulnerable to unwise changes in government policies; recommendations to eliminate government support for cotton production in Francophone Africa were disastrous. The objective is to provide support that enhances producer productivity through research, education and training and appropriate mechanization and infrastructure support, not to eliminate support. Market forces alone cannot increase smallholder productivity and wellbeing; there is a necessary role for the public sector. Dr. Fok's report is a statement of the meeting.

## Fourth Breakout Session

### *Best Practices in Cotton Ginning*

11:00 hrs, Thursday, November 3, 2016

Speakers:

- Dr. Sheraz H. Siddiquee, Textile Engineering Department, NED University of Engineering & Technology, Karachi, Pakistan, "Cotton Quality a Real Challenge for Ginners."
- Dr. Assad Farooq, In charge, Department of Fibre & Textile Technology, University of Agriculture, Faisalabad, Pakistan, "Investigating fiber-to-machine interaction during ginning process."
- Mr. Engin Dirik, Mechanical Engineer M.Sc., Balkan Cotton Ginning Machinery Ltd, Turkey, "High Speed Roller Ginning versus Conventional Ginning Methods of Upland Cotton."
- Dr. Dean Ethridge, Director, Fiber & Biopolymer Research Institute, Texas Tech University, USA, "Ginning for Best Fiber Quality: Technical vs Economic Feasibility."

Dr. Siddiquee emphasized that incentives must be aligned with desired cotton quality attributes. He noted that farmers and ginners are often separated by middlemen, sometimes called country merchants. Middlemen drive from farm to farm with a truck, buying small lots of a few hundred kilograms of seed cotton at a time, before delivering truckloads to gins. Because of the physical disconnect between textile mills, ginners and farmers, it is essentially impossible to reward farmers delivering higher-quality, cleaner seed

cotton with premiums or to discount lower-quality and trashier or contaminated seed cotton.

He suggested that the marketing system needs to be restructured so that quality premiums can be communicated to farmers and ginners. In addition, he suggested that better education of ginners, farmers and pickers as to quality characteristics desired by spinning mills could help improve cotton quality in Pakistan.

Dr. Farooq observed that the ginning process damages fibers by reducing fiber length and strength and creating short fibers and neps. Poor ginning damages fibers unnecessarily. There are about 1,200 gins in Pakistan, mostly saw gins using parts locally manufactured or imported from China. The overall ginning process in Pakistan is oriented toward production volume, not protection of fiber quality.

The University of Agriculture, Faisalabad has undertaken a study of the structure and design of gin saws available in Pakistan, optimum operating speeds, feed rates and moisture management on saw life and fiber quality. Saws available from four domestic manufacturers and one Chinese supplier were studied.

Results show that faster gin speeds and increased feeding rates (increased ginning intensity, meaning the number of saw points per gram of fiber) result in increased Short Fiber Content (SFC) and reduced length (UQL). However, increased ginning intensity resulted in increased trash

removal. Therefore, an optimum speed of 750 revolutions per minute with 12" saws is recommended for Pakistan. The number of saw points per gram of fiber should be in a range between 2,500 and 3,500 per minute. Less-mature cotton, usually from the first pick, should be ginned at slower speeds around 700 rpm.

Saw wear resulting in a reduction in diameter of 1/16th of an inch resulted in appreciable losses in lint turnout and increased power consumption. Curved saws with higher tooth angle performed better than other saws. Saws must be sharpened routinely and installed properly with the correct gauging between ribs. In a typical gin producing 10,000 bales per year, proper sharpening and alignment can increase production by 8 bales per season. Since it is difficult to sharpen saws properly, saws should be replaced after 5,000 to 6,000 bales. Saws with more than 15 broken or missing teeth should be replaced immediately.

There is a tradeoff in managing moisture between trash removal and the creation of short fibers. Dry cotton results in increased grades and lower trash, but increased short fibers and neps. High moisture results in increased trash but fewer short fibers and neps. The University recommends that cotton should be ginned at 9% moisture. Less-mature cotton can be ginned at a higher moisture level around 10%. Dr. Farooq's report is a statement of the meeting.

Dr. Ethridge noted that most agronomic practices during each season do not involve tradeoffs

between quantity of production and quality. However, at the end of each season in Texas where all production is mechanized, there are tradeoffs between yield and fiber quality, and therefore choices have to be made when terminating, harvesting and ginning the crop.

Fiber length distribution is always damaged by ginning. Operational choices facing ginners include processing speed and fiber moisture content. Slower speeds result in better fiber properties but increase energy consumption and ginning costs per kilogram. Moisture affects fiber strength and elongation, but moisture management is expensive. Ginners with moisture management capabilities should increase the moisture percentage in seed cotton entering the gin stand, reduce moisture during pre-cleaning and ginning, and then increase moisture again as lint enters the bale press.

Dr. Ethridge noted that small improvements in length distribution result in big improvements in yarn performance, but that an accurate and fast instrument to measure length distribution in the gin is not available. Therefore, management of gin speeds and moisture are based on average or expected fiber quality results, combined with

expected price premiums for improved quality. If the cotton marketing system does not reward improved fiber quality, ginners will have no incentive to optimize ginning speeds and moisture content. Cotton suffers in competition with man-made fibers because quality premiums are poorly communicated to farmers and ginners by most marketing systems. Dr. Ethridge's report is a statement of the meeting.

Mr. Dirik reported that there are about 500 gin plants in Turkey, each producing an average of 6,000 bales per year. 90% of cotton in Turkey is machine harvested, and all cotton is Upland. The ginning season lasts between 45 and 75 days in each region.

Mr. Dirik noted that there has historically been a tradeoff between saw ginning and roller ginning, with roller ginning being slower and more expensive but producing higher quality fiber. However, new high-speed double-roller gins with capacities of 400-600 kilograms of lint per hour can bridge the difference with saw gins. The operating costs per kilogram of new high-speed roller gins operating at 600 kilograms of lint per hour are half the cost of previous roller ginning systems. According to Mr. Dirik, rotary

knife roller gins are suitable for use on Upland cotton and can be cost competitive with saw ginning while maintaining the traditional fiber quality advantages of traditional roller gins. He forecast that high-speed roller ginning will begin to supplant saw ginning for medium staple Upland cotton varieties.

In response to questions, panelists noted that roller ginning is more sensitive than saw ginning to changes in the moisture content of cotton, and that with cotton that is high in trash, more pre-cleaning is needed with roller ginning. According to Mr. Dirik, optimum moisture for roller ginning cotton in Turkey is 9% to 12%. Dean Ethridge noted that ideally, seed cotton is dried to 4% as it entered saw gins in the United States, moisture is increased to 7% or 7.5% going into the gin stand, and then dried again to 5% to run through lint cleaners, and then brought back to about 7.5% prior to going into the bale press. However, he emphasized that these steps require extensive energy use and substantial investment in moisture management systems, and often costs are perceived to exceed benefits. Accordingly, optimum moisture management is not always achieved.

## Fifth Breakout Session

### *Modern Practices in Instrument Testing*

14:00 hrs, Thursday, November 3, 2016

Chair: Dr. Tasawar H Malik, Director Agricultural Research HQ, PCCC, Multan, Pakistan

Speakers:

- Dr. Tanveer Hussain, Professor of Textile Engineering, Rector, National Textile University Faisalabad, Pakistan, "Modern trends in instrumental testing of clothing comfort."
- Mr. Anthony G Muriithi, Fibre Crops Directorate, Agriculture and Food Authority KENYA, "Rebuilding African Cotton Sector's Poor Image: Modern Practices in Instrument Testing."

Dr. Tanveer Hussain noted that there are three primary aspects of clothing comfort: tactile/sensorial (how it feels), thermo-physiological (breathability, warm or cool feeling, and moisture transfer), and psychological. Psychological aspects cannot be measured, but there are instruments for testing technical fabric properties. The Fabric Touch Tester measures how bendable (flexible) a fabric is, surface friction or roughness, compression and recovery, and thermal conductivity under both compression and recovery. The PHABROMETER tests hand value relative to a given fabric standard, stiffness and softness, smoothness, wrinkle recovery and drape behavior. A SiroFAST-1 compression meter measures fabric thickness at 2 grams/square

cm and 100 grams/square cm and calculates compressibility. The SiroFAST-2 tests bendability of fabric, and the SiroFAST-3 tests fabric elongation under loads of 5/20/100 grams per cm of width. Other instruments test for tensile strength, bendability, compression, friction and roughness, fabric flexibility, air permeability, and moisture management. The Moisture Management Tester (MMT) tests wetting time, absorption rate, maximum wetted radius, spreading rate, and other measures. Additional instruments test water vapor permeability and resistance, thermal resistance, thermal conductivity thermal absorptivity, and heat retention. Dr. Hussain's report is a statement of the meeting.

Dr. Muriithi observed that much has been done to improve the quality of African cotton. However, African cotton no longer receives a premium on world markets and better measurement of quality would lead to enhanced prices.

He said that the use of High Volume Instrument systems for testing cotton quality involve much more than just buying a machine. HVI systems must be part of national classing systems with 100% bale sampling. When national HVI systems are implemented, marketing systems must be revised to provide quality premiums to growers and ginners in accordance with market results. Such marketing systems necessarily

involve permanent bale IDs and national bale numbering systems to enable bale quality to be assigned accurately to gins and producer groups. Reliable, high speed internet connectivity is a must. Dr. Muriithi's report is a statement of the meeting.

In response to detailed and pointed questioning from audience members, Dr. Hussain reported that, based on technical performance measurements, silk is the most comfortable fiber and polyester/cotton blends can enhance textile performance, especially concerning moisture wicking properties. He noted that it is virtually impossible for consumers to recognize fine gradations in fabric performance, and that brand labels and claims of quality (such as thread count) are virtually useless as proxies for quality. He recommended that consumers rely on feel and intuition in determining whether they like a particular textile product.

Regarding textile and apparel products made from organic cotton fibers, Dr. Hussain reported that there is absolutely no physical difference between products made of conventional, including biotech, cotton and organic cotton. However, he reiterated that one aspect of comfort is psychological, and some consumers may feel better wearing organic cotton, even if there is no measurable difference in fiber properties.

## Sixth Breakout Session

### *Developments in the Transfer of Technology*

16:00 hrs, Thursday, November 3, 2016

Chair: Dr. Abdul Najid, Country Manager, ICARDA, Pakistan

Speaker:

- Dr. Muhammad Anjum Ali, Director General Agriculture (Extension and Agronomic Research), Punjab, Pakistan, "Latest Developments in Promotion of Cotton Technologies in Punjab."

Dr. Ali reported that, based on an agricultural census conducted in 2010, there are 5.2 million farm households in Punjab, including 1.6 million households growing cotton, of whom more than half have less than 5 hectares.

The major methods of extension of agricultural research include Farmer Training Programs, Farmer Mega Gatherings, Field Demonstrations, Plant Clinics, SMS messages to farmers on smart phones, and Call Centers. Web-based software, such as the AgriSmart Programme and the Fertilizer and Pesticide Price Monitoring Mechanism are available to assist extension agents in providing information to farmers.

Punjab operates a farmer training schedule with six phases during each season; appropriate focus topics are emphasized in each phase. For example, weed control is emphasized during April

and May, while insect control is emphasized during June and July.

- Farmer Training Programmes are conducted separately for men and women.
- There are 24 districts in Punjab, and 256 plant clinics have been established across the districts, with 616 resident plant doctors to answer questions.
- Smartphone applications and phone call centers help to answer farmers' questions and to send technical information tailored to each district and time of year.
- Between 80% and 90% of farmers in Punjab attend at least one farmer meeting each year.

Dr. Ali reported that Punjab has an extensive system to train extension agents in latest technologies to assure current competence. Each of the 24 districts in Punjab has technical committees that refine latest research and prepare technology packages for delivery to farmers. In addition to technical information, the extension service provides soil testing and disease identification services to farmers.

Special outreach efforts are made to female farmers. Money from cotton-harvesting serves as an important source of income to many rural women in Punjab.

He noted that almost all farmers or members of their families had mobile phones, and that while farmers may speak a plethora of local languages, their children read and write one of the main languages and can translate extension information sent by text message.

In response to a question about mono-cropping, Dr. Ali noted that farmers are not foolish and all know that, like every other crop, cotton must be rotated to maintain soil fertility and reduce pest pressure. He noted that cotton is uniquely suited to the agronomic conditions of Punjab, and therefore serves as the backbone of the cropping system. However, this does not mean that any farmers are so foolish as to plant cotton year after year.

The main alternative cash crop to cotton in Punjab is sugar cane, which requires more water than cotton. Area planted to sugar cane has increased from 50,000 hectares to 400,000 hectares in the last five years.

All commercial crops face the risks of failure in extreme conditions of drought or flood, and cotton is grown in Punjab because of its heat tolerance and drought resistance. He said that suicides occur in all populations, but there were no suicides in Pakistan directly related to cotton failure. Dr. Ali's report is a statement of the meeting.