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# PARC NEWSLETTER

Pakistan Agricultural Research Council

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## Food System Transformation vital for food security: Mahmood

ISLAMABAD: Pakistan Agricultural Research Council launched Pakistan Sub-National Food System Dashboard formally during an August gathering where high level govt officials, partners including National and International stakeholders,, media personnel, and agricultural scientists participated at NARC on Sep. 04.

This Dashboard has been developed in collaboration with PARC, FAO, WFP, IFAD, Johns Hopkins University, and the Columbia Climate School at Columbia University with the leading role of GAIN-Pakistan. Federal Secretary M/o National Food Security and Research, Capt. (R) Muhammad Mahmood inaugurated the dashboard in the presence of all development partners and agricultural scientists and took keen interest in various sections of the dashboard. He appreciated efforts of all

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## Farm research is a key to boost economy: Dr. Kauser

ISLAMABAD: The Federal Minister for National Food Security and Research, Dr. Kauser Abdulla Malik, visited National Agricultural Research Centre (NARC) on Sep. 28, to preside over a one-day workshop on Climate Resilient High Yielding and Quality Rice Development. During his address, Dr. Kauser Abdulla emphasized the significance of research and development in the agricultural sector, stating that it is the country's only hope for overcoming the economic crisis. Dr. Kauser urged young scientists and researchers to make use of technology, particularly in the field of genomics and biotechnology. He emphasized the importance of adapting crops that are resilient to the changing climate and resistant to extreme temperatures. He also mentioned that efforts are needed to commercialize agricultural research in order to benefit the end users, especially the farmers. He also applauded active collaboration of Pakistan Agricultural Research Council with private seed sector. Dr. Kauser

commended Pakistan Agricultural Research Council (PARC) for developing rice varieties that are successfully competing with expensive imported hybrid seeds.

In his welcome remarks, Dr. Ghulam Muhammad Ali, Chairman PARC, expressed gratitude to the distinguished guests, government and private sector representatives, media personnel, and all workshop participants for their participation to make the event successful. Dr. Ali reiterated the focus on benefiting farmers by maximizing their profits through increased crop yields.

He emphasized that National Institute of Genomics and Advanced Biotechnology newly developed climate resilient rice varieties will reduce not only farmers' reliance on expensive imported hybrid seeds but will also ensure sustainable production. While explaining the attributes of these newly developed varieties, Dr. Ali explained that these varieties possess yield potential double to

(Contd. to Page 05, Col 3)



Dr. Kauser Abdulla Malik, Caretaker Federal Minister for NFS&R, Dr. Ghulam Muhammad Ali, Chairman, PARC, Dr. Iqrar Ahmad Khan, VC, University of Agriculture Faisalabad, Mr. Noor Muhammad Baloch, DG, Agriculture Research Sindh sitting at the stage during a one day workshop on Climate-Resilient high yielding and quality rice development at NARC on Sep.28



## New developed rice varieties to ensure growers, exporters prosperity

National Institute for Genomics and Advanced Biotechnology (NIGAB) has developed next level four rice varieties to enhance per-acre crop output and farm income, particularly the income of medium and small farmers. The yield potential of these new developed varieties is about 90-110 mounds per-acre against the conventional varieties, which have potential of only 40 to 50 mounds per-acre.

New developed rice varieties can ensure prosperity to both growers and exporters and can achieve food security and poverty reduction in Pakistan. New developed varieties are of fine quality with extra-long/ long grain, climate resilient and is expected to boost the production and foreign exchange earning of Pakistan. Pakistan already fetching significant amount of export earning of rice and it is expected to be increased due to introduction of these new developed varieties. Variety Evaluation Committee (VEC) already recommended these four rice varieties and now are in process of approval from provincial seed councils.

These next level rice varieties were developed by National Institute for Genomics and Advanced Biotechnology (NIGAB), NARC under the dynamic and vibrant leadership and scientific guidance of Chairman PARC, Dr. Ghulam Muhammad Ali by applying the concept of Breeding by Design (BbD) and High throughput Phenotyping and Sequencing methodologies.

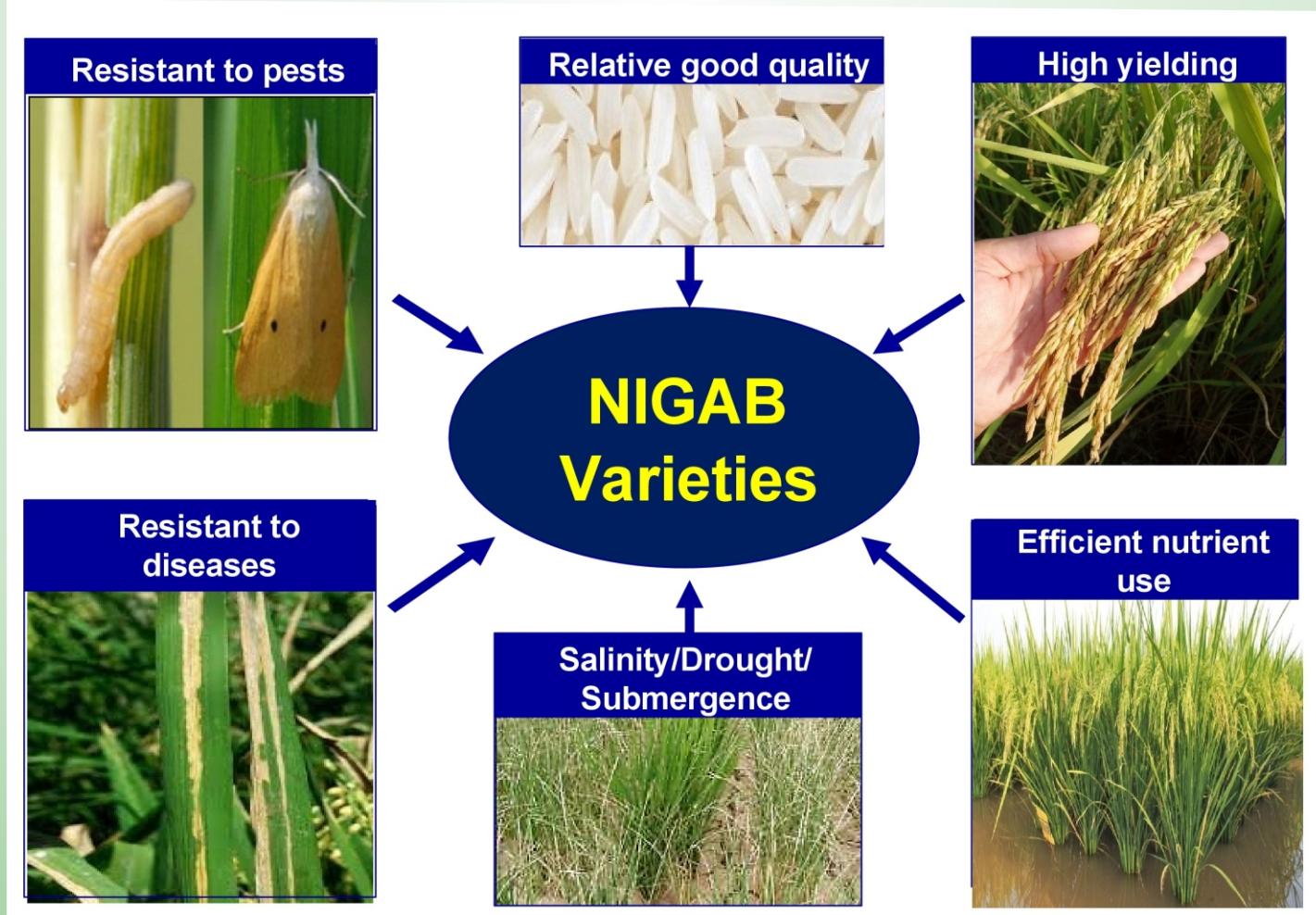
These rice varieties have been developed with favourable allelic combinations for resistance against different diseases and pests. Furthermore, by combining advantageous genes for salinity, heat and flood tolerance, these varieties have been made as climate resilient. These extra-long/long grain rice varieties have excellent potential to efficiently utilize nutrients and maintain its grain and milling quality to produce higher paddy yield in comparison to already cultivated rice varieties. These newly developed rice varieties of NIGAB with exceptional unique qualities will increase farm income and Pakistan's earnings in foreign exchange.



Dr. Ghulam Muhammad Ali, Chairman, PARC highlighting the research achievements on Sep.28



Dr. Ghulam Muhammad Ali, Chairman, PARC, Dr. Iqrar Ahmad Khan, VC, University of Agriculture Faisalabad and others scientists during their visit to NIGAB stall at NARC on Sep.28



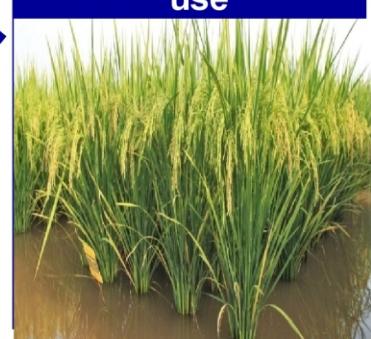
Resistant to diseases



Salinity/Drought/  
Submergence



Efficient nutrient  
use



Resistant to pests



Relative good quality



High yielding



NIGAB  
Varieties

Resistant to  
diseases





## GM ALI-5



### Characteristics

Days to Maturity	100-105
Plant Height (cm)	125
Tillers/Plant	35-40
Spikelets/Panicle	210-250
1000 Grain Weight (g)	31.63
Grain Length (mm)	8.3
Bacterial Blight	Moderately Resistant
Leaf Folder, Stem Borer and BPH	Resistant
Drought, Salinity, Submergence Cold and Heat	Tolerant
Yield Potential (Maunds/acre)	115

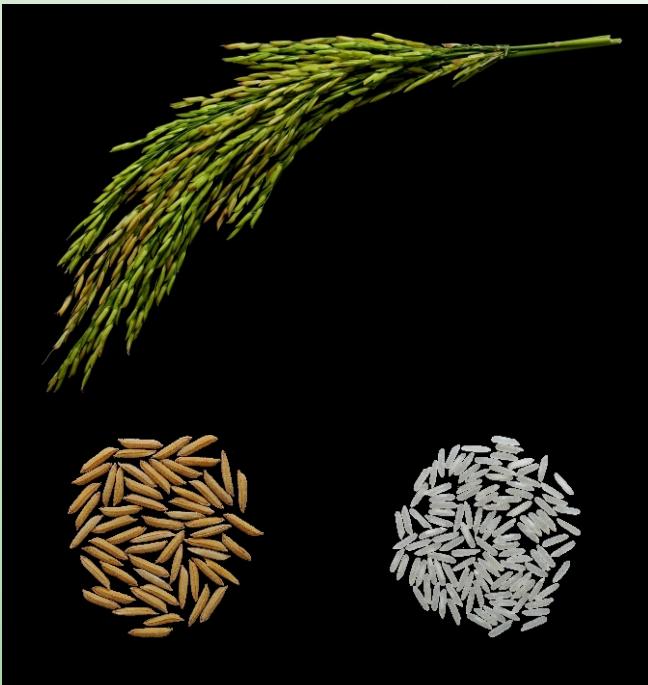


## KM-52



### Characteristics

Days to Maturity	85-90
Plant Height (cm)	102
Tillers/Plant	35-40
Spikelets/Panicle	202-240
1000 Grain Weight (g)	21.18
Grain Length (mm)	6.6
Bacterial Blight	Moderately Resistant
Leaf Folder, Stem Borer and BPH	Resistant
Drought, Salinity, Submergence Cold and Heat	Tolerant
Yield Potential (Maunds/acre)	125





## GM ALI-76



### Characteristics

Days to Maturity	85-90
Plant Height (cm)	100
Tillers/Plant	28
Spikelets/Panicle	207-223
1000 Grain Weight (g)	20.74
Grain Length (mm)	7.40
Bacterial Blight	Moderately Resistant
Leaf Folder, Stem Borer and BPH	Resistant
Drought, Salinity, Submergence Cold and Heat	Tolerant
Yield Potential (Maunds/acre)	115



## GM ALI-48



### Characteristics

Days to Maturity	85-90
Plant Height (cm)	100
Tillers/Plant	35-45
Spikelets/Panicle	175-216
1000 Grain Weight (g)	23.29
Grain Length (mm)	7.5
Bacterial Blight	Moderately Resistant
Leaf Folder, Stem Borer and BPH	Resistant
Drought, Salinity, Submergence Cold and Heat	Tolerant
Yield Potential (Maunds/acre)	125





## Pak-China ties to uplift agriculture sector. Dr. Ali

ISLAMABAD: A delegation, led by Mr. Wu Yuelang, Department of Science and Technology, Hubei Province, China visited the National Agricultural Research Center (NARC) as part of their visit to Pakistan. Prof. Dr. Iqrar Ahmed Khan, Vice Chancellor University of Agriculture Faisalabad, and Dr. Muhammad Jaffar Jaskani, Director ORIC, along with other high official from University of Agriculture Faisalabad were also present at the occasion. The delegation included Ms. Shi Hong, Director of the Social Development Technology Division, Mr. Ye Lin, an Officer from Hubei Province, Mr. Xiao Xuan, the Deputy Dean of Hubei General Hospital, and other

esteemed officials from Hubei, China. Dr. Ghulam Muhammad Ali, Chairman, Pakistan Agricultural Research Council (PARC), extended a warm welcome to the esteemed guests and presented an overview of PARC's endeavors dedicated to fostering innovation in the agriculture sector. Dr. Ali highlighted that PARC actively engaged in agricultural research and development across ten distinct agro-ecological regions of the country, forging collaborations with domestic as well as international institutions. Furthermore, Dr. Ali highlighted the longstanding partnership between PARC and Chinese research institutes in the field of agriculture.



Dr. Ghulam Muhammad Ali, Chairman, PARC in a meeting with a delegation from Hubei, China led by Mr. Wu Yuelang, Department of Science and Technology, Hubei, China during their visit to NARC on Jul.07.

## Food System Transformation vital for food security: Mahmood

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stakeholders for their role in developing this dashboard and advised the scientists to maintain it on sustainable basis and to draw meaningful inferences from available data.

He also advised PARC scientists to develop Pakistan Food Outlook biannually using data of the said dashboard. He emphasized that data and information is vital in decision making and this dashboard will help policymakers. Chairman, PARC highlighted Pakistan Agricultural Research Council contribution in strengthening Pakistan Food System. He praised the efforts of all stakeholders and development partners especially GAIN, FAO and WFP for their contribution in developing this prototype Sub-national Food System Dashboard. Country heads GAIN, FAO, IFAD, WFP and others ensured their technical and

financial support to Pakistan Agricultural Research Council for maintaining and updating this dashboard. Representative from Pakistan Bureau of Statistics also endorsed their role in provision of relevant data in timely manner for further strengthening the Dashboard

## Farm research is a key to boost economy: Dr. Kauser

(Contd. from Page 01, Col.3)

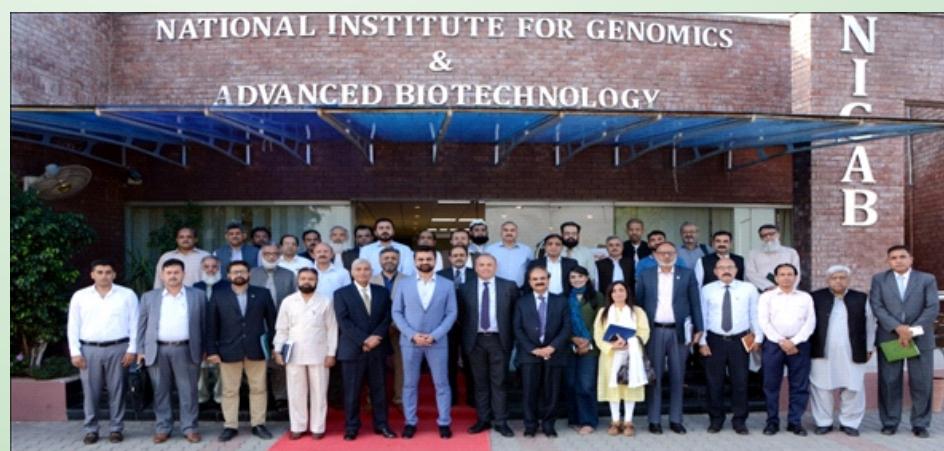
yield potential of existing varieties, which is only 40 to 50 pounds per acre. He further narrated that not only these varieties result in 50% higher yield than other fine varieties but also generate 85 - 120 % more in head rice recovery and 15-20 % more in total milled rice recovery. More importantly.

Dr. Ali illustrated that beside high yield these new varieties are insect/pest and disease resistant and no/less use of pesticide might lower farmers' cost of production. Also, in the backdrop of water shortage and scarcity these varieties will revolutionize the rice economy under less acreage with more or same level of production.

Chairman PARC at the end thanked government functionaries, policy makers, private sector stakeholders and researchers for their valuable time and ensured provincial institutions.

## Visit Abroad

- Seven scientists visited China for training course on sugarcane planting and processing from June 01-20.
- Ten scientists visited Korea on the training course on improvement of agricultural productivity from July 15-28
- Three scientists attended online training under WTO in Geneva during July 20-24.
- Eleven scientists visited China in different training courses from July 15-28
- Two scientists attended ANTAM training in Thailand during Sep 04-08.



A group photo of Captain (Rtd) Muhammad Mahmood, Federal Secretary M/o NFS&R, alongwith Dr. Ghulam Muhammad Ali, Chairman, PARC, Dr. Akmal Siddiq, Technical Advisor, NFS&R, Mr. Kazim Saeed, Strategy Advisor, PAC, Senior officials from MNFS&R, representatives of agriculture departments and Senior scientists from PARC, during a seminar organized by MNFS&R at NARC on Sep.09



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## PICTURES' GALLERY



A group photo of Dr. Ghulam Muhammad Ali, Chairman, PARC alongwith Wu Yuelang, Department of Science and Technology Hubei, China, Prof. Dr. Iqrar Ahmed Khan, VC University of Agriculture, Faisalabad and Senior Scientists from PARC, delegates from Hubei during their visit at NARC on Jul.07



ISLAMABAD A group photo of Dr. Ghulam Muhammad Ali, Chairman PARC, with a delegation from Quaid-i-Azam University at NARC on Aug.02



A group photo of Dr. Ghulam Muhammad Ali, Chairman PARC, with a delegation from United States Department of Agriculture (USDA) at NARC on Aug.23



Dr. Ghulam Muhammad Ali, Chairman PARC, alongwith Dr. Touseef Ur Rehman, Project Director GreenAI, Dr. Gabor Milics, Founding President of the Hungarian Society of Precision Agriculture, Dr. Istvan Grafjodi, Commercial Counsellor, Embassy of Hungary Islamabad, during their visit at NARC on Sep.26



Dr. Ghulam Muhammad Ali, Chairman, PARC in a meeting with Naeem Ullah Khan, High Commissioner designate to Rwanda during his visit to PARC on Jul.26



Dr. Ghulam Muhammad Ali, Chairman, PARC, Dr. Cho Gyoung-Rae from KOPIA and Prof. Cho from Smart Green House consulting during signing ceremony of the establishment of 2nd Aeroponics facility at NARC on Aug.15



Dr. Ghulam Muhammad Ali, Chairman Pakistan Agricultural Research Council chairing 6th KOPIA project planning steering committee meeting at NARC on Sep.06



Dr. Kauser Abdulla Malik, Caretaker Federal Minister for NFS&R, giving away a shield to Dr. Iqrar Ahmad Khan, VC, University of Agriculture, Faisalabad during a one day workshop on Climate-Resilient high yielding and quality rice development at NARC on Sep.28

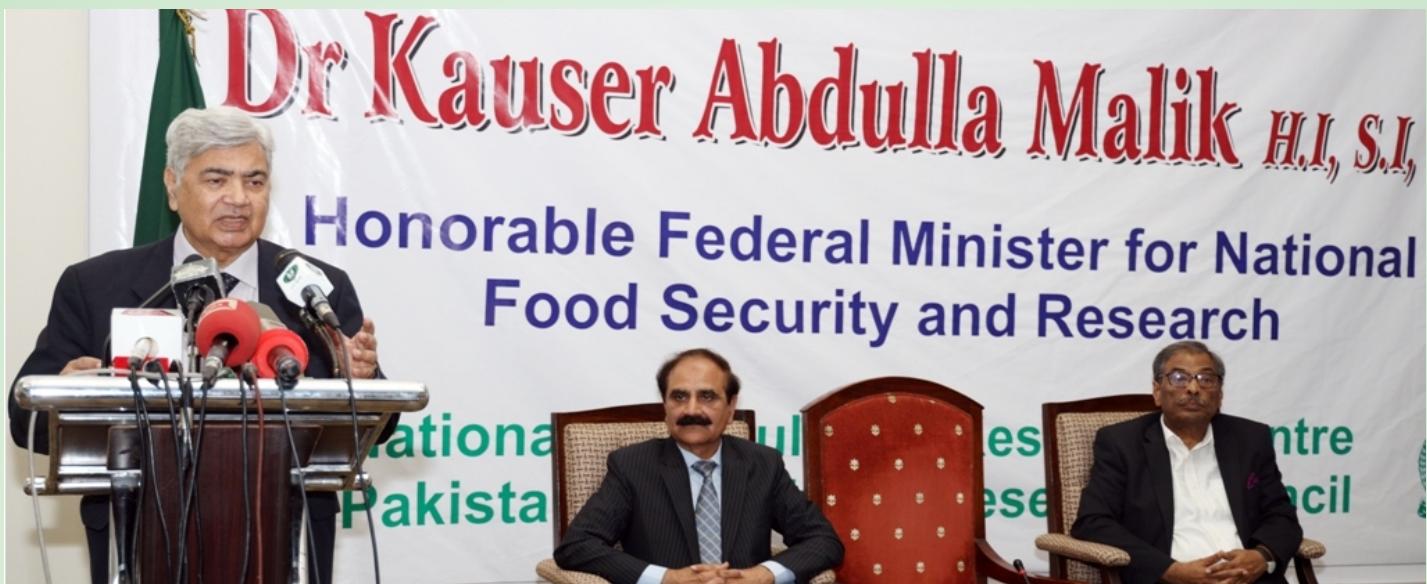


## Govt striding for nutritional security: Dr. Kauser

ISLAMABAD: Caretaker Federal Minister for National Food Security & Research, Dr. Kauser Abdulla Malik, visited National Agricultural Research Center (NARC), on Sep. 21. Chairman PARC, Dr. Ghulam Muhammad Ali warmly welcomed the Honorable Minister.

Dr. Kauser Abdulla Malik addressed the scientists and researchers of PARC. He also underlined the vital role of scientists and researchers for ensuring food and nutritional security of the nation. Dr. Kauser, in his keynote address, emphasized on the vital role of cutting-edge technologies and state-of-the-art

equipment, particularly in the realm of biotechnology, to ensure sustainable food security. He lauded the Council's pivotal contribution through the establishment of one of the world's premier agricultural research facilities i.e. National Institute for Genomics and Biotechnology (NIGAB), consolidating its noteworthy



Dr. Kauser Abdulla Malik, Caretaker Federal Minister for National Food Security & Research addressing the scientists during his visit to NARC on Sep. 21

impact on the nation's agricultural economy. Furthermore, Dr. Kauser commended the invaluable contributions made by young researchers in driving innovation within the field. The federal minister vowed to extend full support from the government regarding technical and financial aspects and friendly policy formulation for the betterment of agricultural sector. He underscored the pressing need for continuous training and education to ensure that

professionals remain abreast of the latest developments. While talking to the community, Federal Minister shared a personal connection, spanning half a century, with Pakistan Agricultural Research Council and the agricultural sector, highlighting his enduring commitment to its progress and development. During the interactive session, Dr. Kauser urged to minimize yield gap of various agricultural commodities. During welcoming speech, Dr. Ghulam

Muhammad Ali, Chairman PARC, conveyed his heartfelt gratitude to the Federal Minister, commending the Minister's groundbreaking contributions to agricultural research in the country. He specifically highlighted the Minister's instrumental role in launching the endowment fund for the ALP, a significant catalyst for advancing cutting-edge agricultural research practices within the National Agricultural Research System during his era as Chairman PARC.



Captain (Retd) Muhammad Mahmood, Federal Secretary, MNFS&R cutting the ribbon during the inauguration of Pakistan sub-national Food Systems Dashboard. Dr. Ghulam Muhammad Ali, Chairman, PARC senior scientists from PARC, representatives from GAIN, FAO, Columbia Climate School and other stakeholders are also present at NARC on Sep. 09

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Dr. Ghulam Muhammad Ali, Chairman, PARC presenting an insightful briefing on the ongoing activities and initiatives of PARC to the members of the sub committee of Public Accounts Committee at NARC on Jul.19

## PARC bringing innovation in farm technology: Domki

ISLAMABAD: Caretaker Chief Minister Balochistan Mir Ali Mardan Khan Domki was invited. Later, in an interactive session he discussed ways to improve research in agriculture to compete with modern lines by Dr. Ghulam Muhammad Ali, Chairman, PARC. He was briefed about the research and development activities of the council across the country with the particular focus on Balochistan and food & nutritional security in the context of growing population of the county. Caretaker Chief Minister of Balochistan applauded the research endeavors of PARC and acknowledged the overall performance of the Council in the available resources. He underscored the Council's significant contribution in shaping the landscape of agricultural economy of the country. He also stressed the importance of implementing measures to improve agricultural productivity, especially for marginalized farmers across the country, specifically in Balochistan. To achieve this, sustainable utilization of

natural resources should be ensured by adopting modern agricultural techniques. Additionally, he stressed that PARC should continue in leading capacity-building programs for individuals engaged in agriculture across various regions of the province, with a focus on modern agricultural techniques. In this context, he assured his complete and unwavering support and cooperation from the provincial government.

Dr. Ghulam Muhammad Ali, Chairman, PARC in acknowledging the proposals put forth by the Caretaker CM of Balochistan, reiterated the commitment of the Pakistan Agricultural Research Council, as the apex national agricultural research organization, to disseminate innovative agricultural research findings throughout Balochistan. Dr. Ali further said that the Council has played a pioneering role in the introduction and promotion of olive, saffron, pistachio and other high value fruits plants in Balochistan.



Dr. Ghulam Muhammad Ali, Chairman, PARC chairing a meeting during signing ceremony of agreement for services between PARC and Dow University of Health Sciences, Karachi at PARC-SARC Karachi on Sep.16



Dr. Ghulam Muhammad Ali, Chairman, PARC alongwith Dr. M. Sajjad Khan, VC, Cholistan University of Veterinary and Animal Sciences during his visit to NIGAB, NARC on Jul.19



Dr. Ghulam Muhammad Ali, Chairman, PARC and Mr. Mir Ali Mardan Khan Domki, Caretaker CM of Balochistan discussing various ongoing activities at PARC