

## OPINION

### Role Of Agriculture In Pakistan



Muhammad Dilawaiz Khan, Nargis Naheed

Agriculture has a huge contribution toward the GDP of Pakistan economy. It contributes about 25% of total GDP, which is larger than other sectors of Pakistan.

"Agriculture is the process of cultivation of land or soil for production purpose". As an agriculturist/agronomist, Agriculture plays a very vital role in the economy of Pakistan and its development. 48% of the labor force is engaged directly with agriculture. So, it is the main source of living or income of the major part of the economy population. About 70% of the population is related to agriculture directly or indirectly. Agriculture is the major source of food for the huge population of Pakistan. Agriculture is also the major source of the provision of raw material to the industrial sector of Pakistan. Its contribution towards GDP is about 25% which is higher than the contribution of any other sector. The following are the main points of the importance of agriculture for the Pakistan economy.

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### Technologies To Minimize Errors Of Pre And Post Analytical Phase Of Clinical Laboratory



Noor-e-Sahar

Medical laboratory or clinical laboratory is the place where pathology tests are conducted on biological specimens to diagnose the disease and confirm about the health of patients.

Without laboratory testing doctors just guess about patient health for accurate diagnosis doctors rely on lab reports it signifies patient treatment depends on laboratory diagnosis. So, it is mandatory that laboratory reports must be accurate, reliable, and precise. Any inaccuracy or error in diagnosis can harm the patient health.

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### Bacteriophage Therapy: Its Immune Response And Limitations



Ali Raza, Muqaddas Amin, Asma Mairaj

Bacteriophage means virus eating bacteria. Bacteriophage therapy is considered as one of the best alternative to antibiotics.

From beginning humans are facing some dangerous diseases. These diseases may be fungal, bacterial, protozoal, and viral.

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## Meeting Held To Evaluate Technology Centers Of Excellence

Minister of planning, development, and special initiatives, presided over a meeting to assess effectiveness of local technology centers of excellence.

The minister of planning, development, and special initiatives, presided over a meeting on Tuesday to assess the effectiveness of the local technology centers of excellence. He stated at the meeting that, in order to meet the demands of the fourth industrial revolution, four Centers of Excellence were established in 2017-18.

The creation of a Center of Excellence, along with robotics, big data, cloud computing, artificial intelligence, and other technologies, was done to get

ready for the fourth industrial revolution. According to minister, a strong partnership between research institutions and industry is essential for the future. We started work on the center of excellence for Nano and space technology, but the succeeding PTI government showed coldness towards it, and no progress was seen during the previous government.

The government is supporting the centers of excellence financially and administratively despite its limited resources, the minister claimed.

The Minister hoped that technology hubs would make the nation well-known by developing websites like Google and Facebook. He stated that tech-

nology centers of excellence work with Central Asian and Gulf states, adding that they "will play a key role in preparing the country for the digital revolution."

He claimed that in order to meet the new demands, advancement and accessibility in contemporary scientific fields are essential. Another meeting was held here to review local projects, and it was also presided over by the federal minister for planning. Attending the meeting were the Secretary of the Ministry of Planning, the Chief Economist, Planning Commission members, and project directors.

The meeting discussed the current state of the 5E

Framework, Outlook 2035, the internship program, and special plans for the 20 most backward districts, in addition to the special measures taken for the rehabilitation of flood-affected areas. In principle, the meeting decided to adopt a process for effectively obtaining private sector feedback on PC-1 and feasibility reports submitted by provincial governments and federal ministries for Ministry of Planning approval. According to the minister, expert and private sector input is crucial for the development and successful completion of high-quality national projects. He suggested that PC-1 include a separate section specifically for expert opinions...[Read More](#)

### UAF Develops Climate Resistant Wheat Varieties To Boost Production

Prof. Dr. Iqar Ahmad said it was urgent to disseminate modern technology to meet the food needs of the constantly expanding population.

Vice Chancellor (VC) and Professor Dr. Iqar Ahmad Khan of the University of Agriculture Faisalabad (UAF) announced on Tuesday that the university was working with Washington State University to develop high-quality, climate-resistant wheat varieties that would boost production, which has been stagnating for a few years due to climate change.

He was speaking to the 32nd Senior Management Course delegation from the Peshawar-based National Institute of Management (NIM). Nafees Rahim presided over the delegation.

In order for the farming community to meet the food needs of the constantly expanding population, Prof. Dr. Iqar Ahmad said it was urgent to disseminate modern technology. He added that the research should be translated into products and services that would help address various agricultural challenges, saying, "In the context of climate change, we will have to introduce heat tolerant varieties."

He claimed that the nation imported \$4 billion worth of edible oil every year. Accordingly, he said, the UAF was attempting to provide skilled labour with a focus on agricultural and rural development, noting that thanks to the country's intervention in maize, its production had increased drastically. He claimed that several projects approved for UAF last year included the Women Facilitation Center, National Handball Academy, Pilot Project for Precision Agriculture, Pak Korea Nutrition Center...[Read More](#)

### NEPRA Calculates Power Price Reduction For KE, DISCOs Customers



NEPRA has so far calculated a power price reduction of Rs 10.80 per unit for KE customers and Rs 2.32/unit for customers of DISCOs.

The National Electric Power Regulatory Authority (NEPRA) has so far calculated a power price reduction of Rs 10.80 per

unit for K-Electric (KE) customers and Rs 2.32/unit for customers of power distribution companies (DISCOs) for the month of December 2022.

NEPRA held separate hearings on Tuesday regarding the requests from KE and the Central Power Purchasing

Agency (CPPA) to consider a change to the FCA of December 2022. Following an initial review of the data, NEPRA has indicated that a reduction in the power price of Rs 10.80 per unit for DISCO customers and Rs 2.3 per unit for KE customers will be approved.

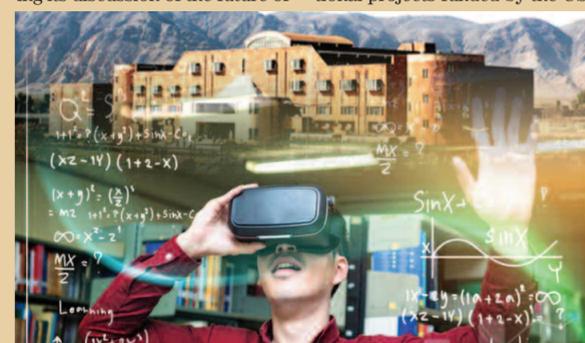
Chairman of NEPRA Tauseef H. Qureshi presided over the hearing, which also included NEPRA members Engineer Rafique Ahmed Shaikh and Engineer Maqsood Anwar. In its application on behalf of DISCOs, CPPA asked for a reduction in the power tariff of Rs 2.20 per unit, while KE asked for a reduction of Rs 1.26 per unit under the heading FCA of December 2022...[Read More](#)

## Panel Discussion Held On Future Of Education At IMSciences

A public diplomacy officer at the embassy, shared some important lessons he learned while managing Fulbright Scholarship program in Pakistan.

A panel discussion on the "future of education and the role of technology in shaping it" was held Tuesday at the Lincoln Corner of the Institute of Management Sciences (IMSciences) Peshawar. According to a statement, the gathering of experts in education, diplomacy, and governance was organized in conjunction with the International Day of Education. The use of technology in the classroom, the transition to online and distance learn-

ing, and the effects of these changes on students and educators were just a few of the many topics covered by the panel during its discussion of the future of



education. Monica Davis, a public affairs officer at the US Consulate General in Peshawar, discussed the effects of educational projects funded by the US

State Department as well as the importance of extracurricular activities for academic success. Matthew Singer, a public diplomacy officer at the embassy, shared some important lessons he learned while managing the Fulbright Scholarship program in Pakistan.

According to Dr. Mohammad Mohsin Khan, director of IMSciences, and Dr. Usman Ghani, joint director, a flexible educational system should be created to meet the needs of students. They claimed that the institution worked to increase access to education and was enhancing students' abilities to be competitive in the job market...[Read More](#)

### PTA Downgraded Wikipedia's Services For Offensive Content

PTA has downgraded Wikipedia services in the nation due to the website's failure to block or remove sacrilegious content.

Pakistan Telecommunication Authority (PTA) has downgraded Wikipedia services in the nation due to the website's failure to block or remove sacrilegious content. By sending a notice in accordance with the relevant legal requirements and a court order, Wikipedia was asked to block or remove the requested contents.

By sending a notice in accordance with the relevant legal requirements and a court order, Wikipedia was asked to block or remove the requested contents. A hearing opportunity was also given, but the platform didn't take advantage of it by removing the offensive material or showing up in front of the authority.

PTA has taken the decision to restrict or reduce access to Wikipedia for a period of 48 hours as a result of the platform's failure to comply with the authority's directives regarding certain content.

It is not uncommon for governments or regulatory bodies to take action against websites or platforms that they believe are not properly regulating offensive or inappropriate content.

The specific reason for the restriction or reduction in services by PTA related to the presence of content that is deemed harmful or offensive in nature.

If Wikipedia doesn't comply, the website will be blocked inside Pakistan.

Services of Wikipedia will only be restored after any reported illegal content has been blocked or removed.



According to regional regulations, PTA is dedicated to providing all Pakistani citizens with a secure online experience.

Wikipedia is a free, multilingual online encyclopedia that can be edited by anyone. It was launched in 2001 and is currently one of the largest and most widely used reference sources on the internet. Wikipedia contains over 6 million articles in over 300 languages and is maintained by a community of volunteers. The articles cover a wide range of topics, including history, science, culture, and current events.

While Wikipedia is a valuable resource, it's important to note that anyone can edit Wikipedia articles, so the accuracy and reliability of information can vary.



## ICCBS, UoS Sign MoU To Promote Academic, Research Endeavors



Both universities agreed to promote and encourage short- and long-term exchanges of faculty members and professionals between ICCBS and UOS.

The International Center for Chemical and Biological Sciences (ICCBS) of Karachi University and the University of Sargodha (UoS) signed a memorandum of understanding (MoU) on Tuesday for the promotion of academic and research endeavors. Both ICCBS Director Prof. Dr. Iqbal Chaudhry (S.I., H.I., T.I.) and UoS Vice Chancellor Prof. Dr. Qaisar Abbas signed the agreement to promote joint research projects, and joint publications.

Both universities agreed to promote and encourage short- and long-term exchanges of faculty members and professionals between ICCBS and UOS in the fields of particular interest, acknowledging the significance of the active engagement of academic members and researchers...[Read More](#)

## Workshop Held To Prepare Poultry Feed For Rural Women's Employment

"Production of Meal/Super Insects as Poultry Feed for Employment of Rural Women in Flood Affected Areas of KP" was the title of workshop.

"Production of Meal/Super Insects as Poultry Feed for Employment of Rural Women in Flood Affected Areas of KP" was the title of workshop.

The University of Agriculture, Peshawar's Faculty of Animal Husbandry and Veterinary Sciences organized a three-day training workshop on the economic advancement and welfare of women in flood-affected areas on Tuesday in collaboration with the Higher Education Commission. "Production of Meal/Super Insects as Poultry Feed for Employment of Rural Women in Flood Affected Areas of Khyber Pakhtunkhwa" was the title of the workshop. In their remarks to the workshop, the vice chancellor, professor Dr. Jahan Bakht, the dean, professor Dr. Sarzamin Khan, and the chair of the department of poultry science, professor Dr. Naila Intiaz, highlighted the significance of mealworms in poultry feed and the potential of insects as a high-quality, effective, and sustainable alternative protein source...[Read More](#)

## Intensified Hydrological Cycle Boosting Frequency Of PK's Disasters

Devastating floods struck Pakistan from June to October 2022, displacing over 30 million people and causing an estimated \$15 billion in damages. Unfortunately, that wasn't an isolated disaster; just a few months prior to the monsoon flooding, droughts were a significant source of worry. What is causing this string of bizarre occurrences? Scientists from Pakistan (PK), the United States, Switzerland, and Singapore have demonstrated that the intensification of the hydrological cycle, which raises the frequency of droughts and floods, is the root cause of these phenomena.

Tree rings, which "record" the duration and intensity of previous climate conditions, offer scientific evidence in favour of this hypothesis...[Read More](#)

# Pakistan To House UN Environment Program Office

UNEP received formal request from Pakistan to open an office there. Its goal is to help government dealing with growing issues brought on by climate change.

The United Nations Environment Program (UNEP) has received a formal request from Pakistan to open an office there. Its goal is to help the government deal with the growing issues brought on by climate change.

The United Nations Environment Program will support efforts to address important environmental issues like the Living Indus Program through its six regional offices in West Asia, Europe, Latin America, Asia and the Pacific, Africa, and North America.

Inger Andersen, UN Under-Secretary-General and Executive Director of UNEP, will discuss environmental issues with the Minister for Climate Change and Sindh Chief

Minister (CM) during her visit to Pakistan.

The UNEP may look at emerging trends in sustainable energy and the environment in Pakistan as well as work to raise people's standards of living.

An official claimed that in response to Pakistan's requests for support in rebuilding flood-damaged areas and safeguarding them from the negative effects of climate change, the international community and the UN are responding favorably.

The visit of the UNEP Executive Director is likely to be very helpful in resolving many issues related to environmental safety and preservation.

The United Nations Environment Program (UNEP) is a specialized agency of the United Nations that was established in 1972. Its headquarters is located in Nairobi, Kenya.

UNEP's mission is to provide leadership and encourage part-

nership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations.

The activities of UNEP include to help nations implementing environmentally friendly policies. UNEP encourages developing nations to take part in the

decision-making process.

United Nations Environment Program (UNEP) provides governments with scientific, technical, and economic advice and coordinates the efforts of various international bodies and organizations on the environmental issues putting environmental projects and programs into action.



## PCRWR Hosts Workshop To Implement National Water Policy

In order to develop the strategy, Dr. Muhammad Ashraf, Chairman of PCRWR, emphasized the need for water conservation in all water-using industries.

The Pakistan Council of Research in Water Resources (PCRWR), in partnership with IWMI, Pakistan, and the Federal Flood Commission (FFC), organized a national level consultation workshop on Draft National Water Conservation Strategy and stock-taking assignments for the implementation of the national water policy on February 1, 2023, at the NCBI Auditorium at the PCRWR Head Office, H-8/1 Islamabad.

The workshop was attended by representatives from numerous federal, provincial, and UN organizations. Speaking to the audience, Mr. Ahmad Kamal, CEA and Chairman of the Federal Flood Commission, emphasized the key elements of national water policy and provided information on its objectives and the demand for the creation of a strategy.

In order to develop the strategy, Dr. Muhammad Ashraf,



Chairman of PCRWR, emphasized the need for water conservation in all water-using industries. He also went into detail about how this document was created from beginning to end.

The audience was briefed by Dr. Mohsin Hafeez, IWMI Pakistan's country representative, on the goals and anticipated results of the stock-taking initiatives. He also emphasized that the information gathered from the stakeholders will be useful in creating a baseline for the 2018 National Water Policy's successful implementation. The PCRWR Secretary, Dr. Hifza Rasheed,

elaborated on the results and major conclusions of the research reports. Mr. Haile Gashaw, Chief WASH UNICEF, expressed appreciation for the organizations' efforts in creating national water conservation strategies and pledged full support for the development of regulations and the effective implementation of the national water policy in line with its original intent. Dr. Hifza Rasheed, Secretary, PCRWR, gave a thorough presentation on the key components of the draft national water conservation strategy during the technical...[Read More](#)

## Ukraine Conflict Likely To Contribute Food Crisis In Pakistan

Ukraine conflict, rising inflation, and rupee depreciation could all contribute to a potential food crisis in Pakistan, US and Pakistani officials warned.

The Ukraine conflict, rising inflation, and rupee depreciation could all contribute to a potential food crisis in Pakistan, US and Pakistani officials warned on Tuesday. The officials participated in a discussion between Washington and Islamabad over the internet, and they also emphasized the need for an evaluation and monitoring system to prevent corruption and poor management of post-flood reconstructions.

Masood Khan, Pakistan's ambassador to the US, responded in the affirmative when moderator Adam Weinstein referred to Pakistan's problems as "a perfect storm" and inquired as to whether Islamabad was concerned. "The war in Ukraine had an immediate impact on us. "And as a result, we were forced to import less wheat and fertilizer from Ukraine," the ambassador said...[Read More](#)

# Disease Surveillance Stepping Up To Address Contagious Diseases In KP

According to officials, the health department is stepping up disease surveillance through prompt investigations to address communicable diseases in the province.

The integrated disease surveillance and response cell of the health department seeks to guarantee the availability of contagious disease diagnostic services at government laboratories and stop disease outbreaks through quick action. According to officials, the health department has submitted a PC-1 to request approval of a Rs900 million grant to increase disease testing and take prompt action to prevent outbreaks.

200 million rupees of the requested sum will be used to upgrade the Public Health Reference Laboratory (PHRL) and introduce new tests. The Khyber Medical University's (KMU) main campus's health department established the lab in 2015 to identify 41 notifiable diseases and respond to outbreaks. The health department requests a grant of Rs900 million to increase testing.

The department had previously requested Rs 1.2 billion for the improvement of integrated disease surveillance and response (IDSR) and the improvement of PHRL's diagnostic capabilities to support the detection and diagnosis of COVID-19, dengue, multidrug

resistant typhoid, Crimean-Congo hemorrhagic fever (CCHF), influenza, and cholera.

A revised program has been approved by the government, according to officials. In addition to conducting other investigations, such as those for measles and influenza, to diagnose as many infectious diseases as possible, PHRL already performs these tests free of charge for hospitals.

At PHRL, they stated, "We intend to increase the number of tests for various communicable diseases from six to twelve.



According to them, the program also entails enhancing disease surveillance at the district level. Following the outbreak of COVID-19 throughout the province, the health department established 12 divisional labs in collaboration with Khyber Medical University.

According to officials, these labs are equipped to conduct tests on samples that have been sent to them from the corresponding hospitals. These labs can be used to examine samples for other contagious diseases in the province.

For the second day in a row, no cases of COVID-19 were discovered in the province on Tuesday. According to officials, the budget was approved by the government in order to facilitate quality patient care and quick testing. Members of the United Nations are required by

the International Health Regulations to establish public health laboratories in order to monitor public health conditions and provide field staff with the information they need to prevent and control epidemics.

"We prevented outbreaks dur-

ing the most recent floods by acting based on surveillance. As a result, the department has also suggested to the government that a permanent setup run by dedicated staff be established as a regular part of the health budget rather than the Annual Development Program, "officials said.

The majority of the province, with the exception of Peshawar, Abbottabad, Mansehra, and Lower Chitral, has seen a decline in COVID-19 cases, giving laboratories time to look into illnesses that might cause outbreaks. They added that the department had written to district health officers and medical superintendents to encourage COVID-19 testing in order to get a better idea of the pandemic's prevalence.

Since COVID-19 is no longer regarded as a serious threat to life as it was one year ago, the department has been faced with the enormous challenge of improving the testing of suspected COVID-19 patients.

The government has eliminated COVID-19 standard operating procedures, and there is no fear factor, which negatively impacts the vaccination drive as well as sample collection, according to officials. "Our workers say they do not find people to give swabs for the COVID-19 investigation in the province, and tests have gone below 100.

## 'Archaeology' Listed Swat Site Among Top 10 Archaeological Discoveries



The Buddhist Apsidal temple at Bazira in the Barikot tehsil was listed among top 10 archaeological discoveries in international journal "Archaeology."

The news that a Swat site was among the top 10 best archaeological discoveries announced by a renowned magazine in 2022 excited archaeologists and cultural activists.

The Buddhist Apsidal temple at Bazira in the Barikot tehsil was listed among the top ten archaeological discoveries in the international journal "Archaeology," a publication of the Archaeological Institute of America. Archaeologists from Ca' Foscari University and the Italian Archaeological Mission, working with the provincial department of archaeology and museums, found the oldest Buddhist temple in Apsidal last year. archeological discoveries, which were placed in the list, include the pharaoh

Amenhotep I's 21st Dynasty wooden coffin decorated with flowers in Cairo Egypt, the well-preserved collection of the 2,550 wooden artefacts in the capital city of Aztecs, Mexico, the 30,000-year-old stone sculpture known as the Venus of Willendorf on the banks of the Danube River in Austria, the world's oldest silver and gold cubes in southern Russia dating around 3500 BC, the Neolithic hunting shrine in the deserts of south-eastern Jordan, the 250 BCE old Maya ritual calendar in the ancient city of San Bartolo, Guatemala, a tomb containing the remains of a man, who occupied a powerful position in the Wari Empire dating around 650-1000 AD in Huarney, Peru, the Mesopotamian urban development in Lagash, Iraq and the wreckage of legendary explorer Ernest Shackleton's ship Endurance nearly 10,000 feet underwater...[Read More](#)

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M. Dilawaiz Khan

**The population growth rate of Pakistan is increasing rapidly. According to UNDP (United Nations Development Programme) human development report, the population growth rate of Pakistan is 2% per year. So, with the rapidly increasing population, the food requirement is also increasing rapidly**



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**Source of Employment:** Pakistan as a developing economy the employment on a consistent level has much importance. In this behalf, agriculture has much importance because it provides employment directly or indirectly to the public. Employment directly affects the GSP of the economy as well as

the per capita income. With the increase in per capita income living standard increases, higher hygiene facilities & better education facilities are also increasing. All these signs are the factors of economic development. So, we can say that agriculture has a great contribution to economic development by providing employment.

**Food Requirement:** The population growth rate of Pakistan is increasing rapidly. According to UNDP (United Nations Development Programme) human development report, the population growth rate of Pakistan is 2% per year. So, with the rapidly increasing population, the food requirement is also increasing rapidly. In this behalf agriculture is the only major sector which is meeting the increasing requirement of food. It also reduces the import of food from other economies. So, we can say that the agriculture sector is playing a very vital role in the development of Pakistan by providing food for massive population as well as supporting economic growth.

**Contribution in Exports:** Major exports or cash crops of Pakistan are wheat, rice, and cotton. 9.8 billion Bales of cotton are produced per year. Rice crop is produced 4.3 million tons per year. These agricultural commodities are exported to various countries against foreign exchange. This foreign exchange is utilized for the import of industrial or technological equipments such as machinery or automobiles. Further this for-

ign exchange is utilized to improve the infrastructure of the economy or for improving the other sector of the economy like education, health, and investments.

**Raw Material for Industries:** Industries have great importance for the development of any country especially for developing economies like Pakistan. Industries need raw material to produce finish goods. In Pakistan agriculture provides raw material to industries. Cotton is a very important agricultural production which is also a major export of Pakistan. It is used as a raw material in textile industries. The production of these textile industries is exported to various countries against foreign exchange. Livestock is also an agricultural sector. It also plays a very important role to export goods by providing the raw material to various industries like sports goods industries and leather industries. So, in this way agriculture helps to Pakistan economy and its growth toward development.

**Infrastructural Development:** Infrastructure plays a very important role in the development of any economy. It is fuel to the economic development. Well organized infrastructure is a key to development because of quick means of transportation of agricultural goods or commodities (raw material or finish goods) and communication. On the distribution purpose of agricultural products good and quick means of transportation are required this intends to improve the infrastructure rapidly. Hence, agricul-

ture plays an important role in the development of transportation for the purpose of distribution of goods.

**Increase in GDP Level:** Agriculture has a huge contribution toward the GDP of Pakistan economy. It contributes about 25% of total GDP, which is larger than other sectors of Pakistan. An increase in GDP shows the development progress of the economy. It has played a very important role since independence toward the GDP of Pakistan. Now agriculture is the 3rd largest sector of contributing to GDP. Livestock and fisheries are a huge sector of agriculture in order to provide employment. Employment contributes to GDP; it is as with the increase in employment the per capita income will increase which results in to increase in the GDP rate of the economy.

**Decreasing in Rural Poverty:** The agriculture sector has played a very important role in order to reduction of rural poverty. From 1975 to 2000 the GDP growth rate of agriculture was about 4.1% per year. Green revolution technology in irrigation, improved seeds, and fertilizers played a very vital role to increase the agricultural production which results in increase in GDP. Through this technology farmers with land gain the opportunity to increase their production. So, in this way, arable lands became cultivated lands and farmers got the market of agricultural products against some return.

**Development of the Banking Sector:**

Agriculture has also contributed a great role in the development of the banking sector. As the government realized the importance of agriculture, it takes steps to improve the productivity of crops by providing the credit facilities to the farmers at low-interest rates. With utilizing these credits farmers can produce more and more crops. For this purpose, the government established the ZTBL and other financial institutes for the provision of credit facilities. So, in this way the development of the banking sector takes place.

**Farm Mechanization:** The introduction of farm mechanization in the agricultural sector had played a very effective role in the development of the economy. With the use of modern machinery in agricultural lands causes more and high-quality production of crops. So, the provision of raw material to the industries increases. Due to an increase in productivity level the export rate of major export crops is increased which causes foreign exchange and economic development. Use of Nanotechnology:

In the agricultural sector use of modern technology like nanotechnology has played a very vital role in the development of the economy.

This technology is used for producing high yielding variety with high-quality products. High-quality products result in a high rate of return to the farmers and the per capita income of farmers increases...**Read More**



My life is now a constant assessment of whether what's happening in real life is more entertaining than what's happening on my phone."

—Damien Fahey

American writer, voice actor, DJ, television host, comedian, and former video jockey.

**Pre-analytical robotic workstation. Pre analytical phase entail many steps or process due to which most prone to error but error can reduce when whole specimen processing becomes automated that possible by pre-analytical workstation the automated system that minimize most of human errors it enables sample identification, sorting, aliquoting, decapping, recapping, level detection, automated centrifuge and detect interfering elements**



## Technologies To Mimimize Errors Of Pre And Post Analytical Phase Of Clinical Laboratory

**M**edical laboratory or clinical laboratory is the place where pathology tests are conducted on biological specimens to diagnose the disease and confirm about the health of patients.

Without laboratory testing doctors just guess about patient health for accurate diagnosis doctors rely on lab reports it signifies patient treatment depends on laboratory diagnosis. So, it is mandatory that laboratory reports must be accurate, reliable, and precise. Any inaccuracy or error in diagnosis can harm the patient health.

To certain the accuracy and make lab diagnosis and reports accurate and reliable it ought that carry out each task with great care and make every step of laboratory free from errors. Basically, laboratories working is divided in three phases pre-analytical, analytical and post-analytical phases. Today laboratories are taking forward steps and more focus on analytical phase or quality control to ensure accurate results but sometimes the pre and post-analytical phase are neglected that prompt the inaccuracy. To maintain quality system, it is must to make every phase free of errors.

As the world advances day by day many technologies have been developed that make humans work easier. As same there are many technologies that significantly minimize laboratory errors. This article appraises about those technologies that contribute to reduce errors of pre and post-analytical phase.

Pre-analytical phase is paramount phase of laboratory where your laboratory process is started so any error in start can continue error at the end. Pre-analytical phase of lab contains many steps due to which it is prone to errors. For accurate diagnosis it's essential to make first step accurate. Most common errors of pre-analytical phase are:

- Wrong order entry
- Wrong specimen labelling or identification
- Presence of interfering substance
- Improper handling
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These errors can be minimized by introduction of some technologies like

Computerized physician order entry system. For accurate diagnosis and result firstly it is must that select appropriate test,

wrong test selection prompts whole process going to wrong, delay patient treatment, repeated testing, and financially affect patient. The paper-based test requisition causes this error due to poor or understandable writing. This error can be minimized many percent by establishing "computerized physicians order entry system that enables the physician to request a test directly through computer in this way the wrong entries of tests can be reduced. This technology improves efficiency and accuracy of laboratory.

Automated patient or specimen ID system. Specimen identification error is ubiquitous error that directly affects patient health because misidentification or mislabelling lie at the root of misdiagnosis. Handwritten labels cause this error owing to omit a line, number or name. But many technologies have been elaborated that meliorate to avoid this error. Barcode identification system is one of effective way that eliminates human errors and significantly decreases misidentification of sample. Even the lab automated machines entail barcode scanners that enormously decrease rate of error. Not only that but Radiofrequency identification, magnetic strips, optional charac-

ter recognition also same technologies to reduce patient ID error.

Serum indices. Presence of interfering substance in sample is one of most deleterious error of pre-analytical phase that causes incorrect measurement of analyte. Haemolysis, lipemia and icterus are most frequent interfering substance that befall due to inappropriate collection, handling, and timing. Presence of interfering substances change concentration of analyte in sample by absorbing light with different wavelengths. Most lab detect these interferences by visual examination that prompt unreliable results. But this can be fix by serum indices the automated system that enable lab to quantify these interfering substances with confidence. Serum indices use bio chromatic wavelength for measurement then by calculation of absorbance show level of haemolysis, lipemia, and icterus in sample and increase accuracy and reliability of results.

Pre-analytical robotic workstation. Pre-analytical phase entail many steps or process due to which most prone to error but error can reduce when whole specimen processing becomes automated that possible by pre-analytical workstation the auto-

mated system that minimize most of human errors it enables sample identification, sorting, aliquoting, decapping, recapping, level detection, automated centrifuge and detect interfering elements. In this way improve accuracy and integrity of specimen processing not only that but also protect lab personnel from biohazard, infection and contamination by decrease sample handling.

reading: Free Bathroom design software to use

Post-analytical phase last and ultimate phase of laboratory that give appraisal of lab diagnosis or sum up of pre-analytical and analytical phase. This phase necessitates transmission of accurate and reliable report to authentic person on time. Any error in this phase annihilate total testing process. The most common error that occurs in post-analytical phase are

- Delay transmission of reports
- Reported to wrong patient
- Inappropriate verification of results

But these errors can diminish by implementing new technologies as such Auto validation of results. Transmission of laboratory report to authentic person on time that must be accurate and reliable is prior goal and target of lab. But as with population

health issues or problems propagate owing to increase number of testing due to which some time this goal doesn't come true. Manual validation of results takes significant time and may omit step that causes errors. But Auto validation of test results can demote this issue or error. It is automated system that verify result without need of lab person. Auto validation system is based on predetermined rules and criteria that implemented in Laboratory information system (LIS).

These rules entail analytical measurement range (AMR), pre-analytical and analytical flags, limit check, critical value, delta check and consistency check. If result is fulfilling on these parameters verified automatically if any result doesn't fall any of parameter not verified automatically.

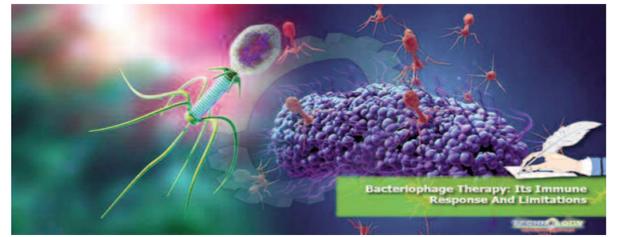
This technology ambitiously minimize error that previously befall, help to catchup out of range result, alert about critical value etc. It not only reduces errors but also enhance patient safety and lab quality.

Electronic transmission of reports, patient treatment and diagnosis rely on lab reports, so it is fundamental to deliver report on time to authentic person...**Read More**



Ali Raza

*Chronic ulcers formed as a result of some disorder like insufficiency of blood circulation, in case of diabetes, and many other. Two types of ulcers are found*



## Bacteriophage Therapy: Its Immune Response And Limitations

Ali Raza, Muqaddas Amin, Asma Mairaj

**B**acteriophage means virus eating bacteria. bacteriophage therapy is considered as one of best alternative to antibiotics.

From beginning humans are facing some dangerous diseases. These diseases may be fungal, bacterial, protozoal, and viral. All of them are very lethal and causing severe damage to human beings throughout the globe. Out of them most common infections are bacterial infections. different groups of antibiotics are made to treat bacterial diseases. Antibiotics decreases the load of diseases but with passage of time due to repeated use of antibiotics microbes develops resistance against these antibiotics. So to resolve this issue a new therapy is used by medical researchers called as bacteriophage therapy.

Bacteriophage means virus eating bacteria. bacteriophage therapy is considered as one of best alternative to antibiotics. Phage was first discovered by Twort in 1915 and d.Herelle in 1917.both discovered them independently. General structure of bacteriophage Head and tail which further classified by different scientists which are as follow

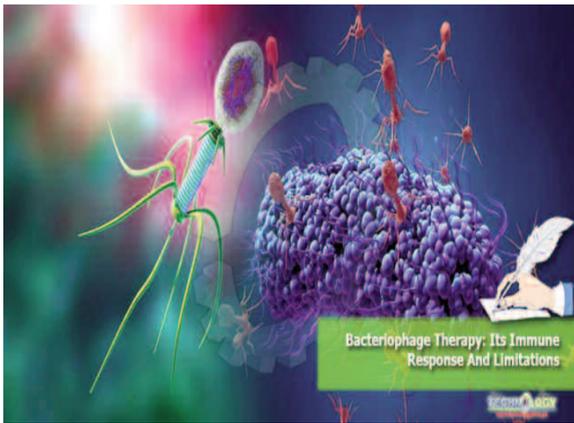
Felix d Herelle first discovered bacteriophages.  
Burnet classification  
Ruska classification

Bradley classification  
Tikhoneneko s classification  
Bacteriophages have two life cycles

Lytic cycle

Lysogenic cycle

Lytic cycle includes lysis of bacterial cell and lysogenic involves no lysis of bacterial cell viral DNA itself in cooper-



ates into bacterial DNA and transferred to further generation.

Why bacteriophage therapy is more preferred over Antibiotics?

There are many reasons why bacteriophage therapy is preferred over broad spectrum antibiotics

Antibiotics destroyed both beneficial as well as harmful microbes however bacteriophages are highly specific in their action.

Bacteriophages have better

tolerance capacity as compared to antibiotics.

Chances of development of resistance against bacteriophage therapy is low.

Bacteriophages are nontoxic for body metabolism

Bacteriophages replicate inside the bacterial host thus decreases the load of microbes.

cheap and easily available as compared to antibiotics.

Applications:

Bacteriophage therapy is now widely used in medical science to reduce the burden of disease in both humans and animals some of useful applications of bacteriophage therapy are given below.

According to the report of WHO World Health Organization in 2017 categorized 12 most lethal pathogens that have developed antibiotic resistance. These pathogeneses are now minimized by using bacteriophage therapy. List of few of them agents which bacteriophage therapy is being used are given below

aeruginosa  
Escherichia coli  
Klebsiella  
Enterobacter  
Serratia  
Proteus

Treatment of surgical wound: Bacteriophage therapy was extensively used during Finnish Campaign in 1939 to 1940 as an effective therapy for treatment in surgical wounds. A mixture of bacteriophages can used to treat Clostridium perfringens, Staphylococcus spp., and Streptococcus spp. That are responsible for gas gangrene in humans.

As post-operative treatment: It is observed that phage therapy given to cancer patients as post-operative treatments gives good and effective result as compared to same patients treated with broad spectrum antibiotics.

Treatment of burn surfaces:

In case of burns burn surfaces are highly colonized by bacteria that form biofilms on burn surfaces and become resistant to action of antibiotics.so bacteriophage therapy works effectively to remove the biofilms and used in treatment of burns surfaces.

Treatment of chronic ulcer: Chronic ulcers formed as a result of some disorder like insufficiency of blood circulation, in case of diabetes, and many other. Two types of ulcers are found

superficial ulcers:

these ulcers that are present for shorter duration and are caused by Staphylococcus spp., mainly S. aureus

deep ulcers:

Those ulcers which are present for longer duration are colonized with the diverse microbiota that contains Proteobacteria and anaerobes, including Anaerococcus, Peptonihilus

Limitations:

As bacteriophage therapy made a revolution in medical history but still there are some issues with bacteriophage therapy that need to be solved. Following are lists of some limitation that should be solved in order to use bacteriophage therapy in future against various diseases.

As bacteriophage therapy is highly specific so its difficult to isolate a specific stain against specific bacterial agent.

Bacteria may develop resistance against bacteriophage

therapy.

Following mechanism are used by bacteria to escape the attack of bacteriophage therapy

Hiding from bacteriophages

Change or loss of receptor  
Secretion of substances that prevent adhesion of bacteriophage to pathogen surface.

Activation of measures for preventing blocking DNA entry into the cell

Due to lysogenic character of bacteriophages they are highly discouraged

Lysogenic phases Inco operate their DNA into bacterial genome and may be as source of spreading resistance to next generations.

Bacteriophages are non-self-antigens and immune system recognizes them as as induce responses by body immune system so it may reduce the working of immune system.

Bacteriophage therapy is still using in humans to treat many infections especially infections of skin and GIT. However, the use of bacteriophage therapy is still contra versional and not allowed in some countries of world.

interesting reading: How To Start A Web Hosting Company in 2022?

Conclusion:

Bacteriophage therapy has brought a revolutionary change in medical science and helps a lot in combating against many infectious diseases. Due to bacteriophage discovery human and animal health are considered more safer as compared to



Muftiha Noor

*Rosalind Franklin was a pioneer of the study of molecular structures receiving recognition among scientists for her research on the molecular structure of coal, viruses, and DNA. Her X-ray diffraction images of DNA enabled the University of Cambridge's Francis Crick and James Watson to identify the molecule's double helix structure*



## Women Role Models In Science

**T**he saying, "If she can't see it, she can't be it," speaks to the importance of introducing girls to female role models in science, mathematics, and technology.

The saying, "If she can't see it, she can't be it," speaks to the importance of introducing girls to female role models, especially in areas where women's accomplishments were often overlooked or minimized such as in science, mathematics, and technology. A new poster collection aims to bring more of these women's stories to light — and inspire today's Mighty Girls with the knowledge that she can be whatever she aspires to be!

The free downloadable posters, created by Nevertheless, feature eight trailblazing women who have made an impact in STEM fields. Each poster is also uniquely designed by a different female artist from around the world. Nevertheless, a podcast which celebrates women transforming teaching and learning through technology, hopes that you will download the posters and print them out for your school, home, or workplace.

Below, you'll find links to download each poster, as well as a description of the scientist featured and recommended reading for both kids and adults to help you explore her story in more depth.

Of course, one of the best ways to encourage kids' interest in science is through stories, and there are fortunately an ever-growing number of high-quality books about female scientists, engineers, and mathematicians being written for children and teens!

To learn about the the best new books for all ages, you can find both books about real-life female scientists and fictional stories about curious Mighty Girls who love science in our blog post, Ignite Her Curiosity: Books to Inspire Science-Loving Mighty Girls. You can also browse A Mighty Girl's entire collection of books about pioneering female scientists for children and teens in our Science Book Collection, which is sortable by reader age using the left menu filter.

From beautifully illustrated picture books to fascinating teen biographies, the growing numbers of great books about female scientists for children

and teens show our girls how women have made critical contributions to science throughout history. And, of course, these titles are just as important to share with boys because all kids need to know that science is for girls!

Dr. Cynthia Breazeal is an Associate Professor of Media Arts and Sciences at the Massachusetts Institute of Technology where she founded and directs the Personal Robots Group at the Media Lab. She is also founder and Chief Scientist of Jibo, Inc. She is a pioneer of Social Robotics and Human Robot Interaction. She authored the book Designing Sociable Robots, and she has published over 100 peer-reviewed articles in journals and conferences on the topics of Autonomous Robotics, Artificial Intelligence, Human Robot Interaction, and Robot Learning.

Rosalind Franklin was a pioneer of the study of molecular structures receiving recognition among scientists for her research on the molecular structure of coal, viruses, and DNA. Her X-ray diffraction images of DNA enabled the

University of Cambridge's Francis Crick and James Watson to identify the molecule's double helix structure. For years her work on the structure went unnoticed as only Crick, Watson and Franklin's colleague Maurice Wilkins received the Nobel Prize for the discovery in 1962. In 2003 The Royal Society established the Rosalind Franklin Award to bring attention to outstanding work of women in STEM.

Mae C. Jemison is an American engineer, physician and NASA astronaut. She became the first African American woman to travel in space when she went into orbit aboard the Space Shuttle Endeavour on September 12, 1992. She resigned from NASA in 1993 to found a company researching the application of technology to daily life. She has appeared on television several times, including as an actress in an episode of Star Trek: The Next Generation. She is a dancer and holds nine honorary doctorates in science, engineering, letters, and the humanities. She is the current principal of the 100 Year Starship organization.

Maria da Penha is a Brazilian biopharmacist and human rights defender. She advocates for women rights, particularly against domestic violence. When Maria da Penha was almost killed by her husband, there wasn't a single police station she could go to in Brazil that specialized in violence against women.

The case Maria filed languished in court for two decades, while her husband remained free.

Years later, in a landmark ruling, the Court of Human Rights criticized the Brazilian government for not taking effective measures to prosecute and convict perpetrators of domestic violence. In response to this,

the Brazilian government in 2006 enacted a law now known as the Maria da Penha Law on Domestic and Family Violence, which increased the severity of punishment for domestic violence against women, whenever it occurred in a domestic or family environment.

Juliana Rotich is a technologist, strategic advisor, entrepreneur, and keynote speaker. She is co-founder of BRCK Inc, a hardware and services tech-

nology company based in Kenya. BRCK was formed to realize a vision for enabling communication in low infrastructure environments by developing useful, innovative technologies. Juliana also co-founded Ushahidi Inc., a non-profit tech company, which specializes in developing free and open source software for changing how information flows in the world.

Dr. Hayat Sindi was born in Makkah, Saudi Arabia and is one of the world's leading biotechnologists. She is the Founder and President of the i2 Institute and a co-founder of Diagnostics For All.

She was ranked by Arabian Business magazine as the 19th most influential Arab in the world and the ninth most influential Arab woman.

Sindi has a Ph.D. in biotechnology from Newnham College, Cambridge, which she obtained in 2001;

she was the first Saudi woman to be accepted at Cambridge University to study the field of biotechnology, and the first woman from any of the Arab States of the Persian Gulf to complete a doctoral degree in the field...[Read More](#)



## AI Driven ChatGPT Raising Concern Among Malaysia's Academia

ChatGPT is designed to mimic human-like conversation. However, its accurate responses are almost indistinguishable from human-written text.

Capable of easily completing college-level essays in seconds, the artificial intelligence (AI)-driven ChatGPT is raising concern among Malaysia's academia. Launched last November, ChatGPT is designed to mimic human-like conversation. However, its accurate and thorough responses are almost indistinguishable from human-written text.

Last month, a professor at University of Pennsylvania's Wharton School found that AI-driven ChatGPT was able to score between a B- and B for

the school's Master of Business Administration (MBA) program.

While there is hardly any information about its use in Malaysia, New York City's public schools recently blocked AI-driven ChatGPT access on its school devices and networks due to its "negative impacts on student learning and concerns regarding the safety and accuracy of its content".

Yesterday, creators of the program released a tool which they said is designed to detect when written works are authored by AI.

Malaysian Academic Movement (Gerak) chairman Zaharom Nain said although one should not be "dazzled, blinded or seduced" by pro-

grams such as ChatGPT, it was equally important not to regard them with disdain.

He said history has shown that the use and abuse of technology depends on how societies are structured and operated, and noted that it is quite likely technology will be used for the right purposes in societies where integrity and honesty are the "cornerstone" by which institutions of higher learning are built on.

"The question that begs asking is, do such societies and institutions really exist in this era of neoliberalism?" he said. "More specifically, are Malaysian institutes of higher education paragons of virtue, honesty, and integrity?"

"If they aren't - and given the ongoing accounts of plagiarism, cheating, bullying and fraudulent activities, it looks as if many aren't - then, quite likely, technology like ChatGPT would just be another weapon in the overall cheating game."

Zaharom said while some academics will examine how ChatGPT can be of use, and try to figure out ways to counter its abuse, those who lack integrity will seek ways to abuse such technology, such as by producing fake assignments or churning out "research" papers in obscure journals. "Quite simply, if there are no guidelines, it will be free-for-all," he said. "Even with guidelines, given the rotten state..." [Read More](#)

## YTL PowerSeraya Expects To Begin Electricity Imports From Malaysia



YTL PowerSeraya will purchase 100 MW of electricity over two years from TNB Power Generation's gas-fired plant in Pasir Gudang, Johor.

Local power producer YTL PowerSeraya expected to commence electricity imports on a commercial basis from Malaysia for the first time, the company announced on Monday.

YTL PowerSeraya will purchase 100 megawatts (MW) of electricity over two years from TNB Power Generation's gas-fired plant in Pasir Gudang, Johor. TNB Power Generation is a subsidiary of Malaysia's national electricity company Tenaga Nasional Berhad (TNB).

This will make up about 1.5 per cent of Singapore's peak electricity demand, enough to power about 144,000 four-room Housing Board flats for a year, The Straits Times understands. The electricity will be exported via a recently upgraded interconnector between the two countries.

A ceremony for the signing of the cross-border electricity purchase agreement was witnessed by Singapore's Manpower Minister Tan See Leng and Malaysia's Minister of International Trade and Industry Tengku Zafrul Tengku Abdul Aziz.

A YTL PowerSeraya spokesman said the company expects to commence imports from Malaysia in the second half of 2023 but added that pricing details were confidential.

Both YTL PowerSeraya and TNB will work closely with the Energy Market Authority (EMA) of Singapore and Malaysia's Energy Commission to refine all technical settings and regulatory arrangements. The agreement will take effect once all conditions are met, the spokesman said... [Read More](#)

## Malaysia Healthcare Offers Cancer Treatments To Medical Travelers



Breast cancer is the second most common type of non-melanoma cancer, after lung cancer, and the fifth most common cause of cancer death.

The Malaysia Healthcare Travel Council says 31 private hospitals from Malaysia Healthcare's network of member hospitals offer comprehensive cancer treatments to medical travelers. Globally, breast cancer is the second most common type of non-melanoma cancer, after lung cancer, and the fifth most common cause of cancer death.

In Malaysia, it is also the most common cancer nationwide. In conjunction with the theme of this year's Breast Cancer Awareness Month, Living Beyond Breast Cancer, Malaysia is set to reinforce its prowess as a Cancer Care Centre of Excellence in the region. Since its first cancer treatment center opened its doors in 1981, Malaysia has achieved international recognition for its quality of care. Recently, the country was proclaimed second in the care and delivery of cancer treatment in the Asia Pacific and the third-most prepared country overall... [Read More](#)

## PNBCAP, A Nature Adaptation Program Strengthens Social Resilience

Nik Nazmi said the nature adaptation program includes engagements with stakeholders from civil society and vulnerable groups to achieve its goals.

Natural Resources, Environment and Climate Change Minister Nik Nazmi Nik Ahmad said the Penang Nature-Based Climate Adaptation Program (PNBCAP), a nature adaptation program is one such effort for the urban areas of Penang that addresses the issues of heat stress and flooding while strengthening social resilience and institutional capacity.

The government cannot fight climate change on its own as it

## 5 Years Development Plan Fostering Malaysia's Renewable Energy Adoption



Demand for electricity & energy has been rapidly increasing over the years with population and economic growth, leading to budding industries & sectors.

The demand for electricity and energy has been rapidly increasing over the years in step with population and economic growth, leading to budding

industries and sectors. Efforts to foster and accelerate renewable energy adoption in Malaysia are continuing in the five-year development plans and cross-sectoral (and technological) policies. This development is especially prolific in Southeast Asian countries, including Malaysia. A study by Rajah Rasiah and his colleagues from Universiti Malaya in 2016 showed that the cumulative cost of climate damage for Malaysia and Asean without any optimal policy or action would be RM40.1 billion from 2010 to 2110. Malaysia has taken note of this concern. On Nov 20, 2009, the cabinet enacted... [Read More](#)



requires the buy-in from all sectors, from the public and private sector as well as at the sub-national level, said Minister Nik Nazmi Nik Ahmad.

Nik Nazmi said the nature adaptation program includes engagements with stakeholders from civil society and vulnerable groups to achieve its goals that will benefit all levels of society in Penang.

"The PNBCAP is such a promising concept, perhaps even a game changer," he said in his speech after witnessing the signing of the cooperation agreement between Think-City and the United Nations Human Settlement Program (UN-Habitat) for the PNBCAP, here today. Also present were Penang Chief Minister Chow Kon Yeow, special advisor to the Executive Director of UN-Habitat Neil Khor and Think City managing director Hamdan Abdul Majeed. Nik Nazmi said he hoped that PNBCAP could serve as a model for Malaysian urban areas across the country in fighting climate change, adding that although Malaysia's carbon output was only 0.69 per... [Read More](#)

## Secai Marche Raises US\$1.6M In Series A Funding



Secai Marche, a Japan- and Malaysia-based farm-direct platform, has announced it raised about US\$1.6 million (210 million Japanese yen) in Series A funding.

The round was led by The Agribusiness Investment and Consultation Co., Spiral Ventures Asia Fund I, and Beyond Next Ventures. Secai Marche is a B2B farm-to-table fulfillment platform. Headquartered in Japan, it also operates in Southeast Asia.

Previously, Secai Marche had closed a US\$1.4 million seed round and US\$1.5 million pre-series A funding, bringing the startup's total raised so far to US\$4.5 million.

According to TechCrunch, the fresh funds will go towards developing Secai Marche's demand forecast system and optimizing its truck routing as it expands its service areas. Described as a "one-stop platform", Secai Marche is an online marketplace that connects farmers with restaurants in Japan and Malaysia.

Malaysian farmers that it works with include Momo Fresh Farm, NonehCekgu MD2 Pineapple, Nian Feng Plantation, Foliage Micro Greens, LK Fresh Eggs, Weeds and More, and XKH Farm. According to its website, more than 400 hotels and restaurants are using its platform... [Read More](#)

## Alipay+ Strengthens Partnership With Foodpanda Malaysia

Foodpanda Malaysia's customers can now enjoy convenient food and grocery deliveries by paying through Touch 'n Go eWallet.

Alipay+ has further strengthened its partnership with Asia's largest food delivery platform, foodpanda, to Malaysia. Through this partnership, foodpanda Malaysia's customers can now enjoy convenient food and grocery deliveries by paying through Touch 'n Go eWallet, one of the leading mobile wallets in Malaysia.

"Alipay+ is committed to helping merchants reach more than 1 billion global consumers and ensure easy and smooth payments of our e-wallet partners when consumers place orders on each platform." With contactless payments becoming more prevalent over the past few years, users of Touch 'n Go eWallet are now able to purchase food and daily essentials through foodpanda Malaysia, the country's leading quick commerce delivery platform. Customers can also enjoy instant cash discount at checkout via Touch 'n Go eWallet when placing orders on food-

panda. "foodpanda Malaysia is committed to providing our customers with the convenience of having their food and daily essentials delivered right to their doorstep. We strive to be 1% better each time and add value to our customer's experience. This time, it is to give them more options in payment methods," said foodpanda Malaysia Chief Executive Officer Sayantan Das. "We are proud to be partnering with Alipay+ and TNG Digital to enable the usage of Touch 'n Go eWallet on our platform. Leveraging our synergies as the leading quick commerce platform and the largest eWallet provider in the country, we are

happy to play our role in encouraging the adoption of digital payment for the convenience and safety of millions of our merchants, riders and customers," he added. The gross merchandise value (GMV) of the on-demand food delivery market in Southeast Asia is expected to reach US\$49.7 billion by 2030, growing at a compound annual growth rate of 14.1%, according to a 2022 report from research firm Frost & Sullivan. The GMV was estimated to be at US\$15.2 billion in 2021, it said. foodpanda Malaysia's latest partnership with Touch 'n Go eWallet will tap into the eWallet's more than 18 million registered users... [Read More](#)

