Global Webinar on the Impact and Recovery from COVID-19 in the Irrigation and Drainage Sector

May 18, 2020
Welcoming Remarks

Jennifer Sara
Global Director, Water Global Practice, World Bank

Felix Reinders
President, International Commission on Irrigation and Drainage (ICID)
Felix Reinders, President, International Commission on Irrigation and Drainage (ICID)

Irrigation and Drainage in a Changing Environment
International Commission on Irrigation and Drainage: Vision 2030

Vision:
Water secure world free of poverty and hunger through sustainable rural development.

Mission:
Working together towards sustainable agriculture water management through inter-disciplinary approaches to economically viable, socially acceptable and environmentally sound irrigation, drainage and flood management.
ICID Vision 2030: Organisation Goals

1. Enable higher crop productivity with less water and energy
2. Be a catalyst for change in policies and practices
3. Facilitate exchange of information, knowledge and technology
4. Enable cross disciplinary and inter-sectoral engagement
5. Encourage research & support development of tools to extend innovation into field practices
6. Facilitate capacity development
Presently active network is spread over 80 countries, covering over 95% of the irrigated area of the world.
Our Dependence on Water

Rainfed Agriculture: 1233 million ha
Irrigated Agriculture: 300 million ha
Total World Agricultural Area: 1,533 Mha

Area currently under Irrigation: 300 Mha

20% of total agricultural land area supplies about 40% of the world’s food.
Challenges

Demand for food:
- 1 billion people are threatened by hunger
- 2 billion people cannot afford a healthy diet

Additional drivers:
- Population increase, with an associated higher demand for food as well as due to increased incomes
- Challenges from crises, such as COVID-19

Food production needs to increase
- + 42% by 2030
- + 70% by 2050
What is needed to sustain food production?

Annual increase rates need to double

Game-changing solutions are needed to produce „more with less“
Impact of COVID-19 in the Irrigation and Drainage Sector
The success of irrigation

Research

Companies

Producers
Global Impact of COVID-19

Belgium: Potato sector the most affected
United Kingdom: Lack of workers will be the biggest challenge in May
Germany: Imminent shortages of seasonal labourers and logistics workers
Austria: Depressed mood in the country
Switzerland: Dramatic scenes in supermarkets
France: Basic products are mostly the ones being hoarded
Italy: Citrus is doing well; shortage of workers ahead of the harvest
Morocco: Borders with Europe closed
Poland: Demand for apples is rising, borders are closing
Global Impact of COVID-19

- **Hungary**: Severe staff shortages affect cabbage harvest
- **Greece**: The logistics is the biggest challenge
- **Turkey**: Iran and Iraq borders closed; prices have fallen
- **Israel**: Workers unable to get to work because of closed borders
- **India**: The logistics will be a challenge
- **Ghana**: Exports to Europe have completely stopped
- **South Africa**: Citrus industry awaits release of reefer containers from China
- **North America**: Air freight from South America and Europe hindered
- **Australia**: Fear of labour shortages
Response and Recovery from COVID-19 means collective action and support by partners.
Beyond COVID-19 lies turbulence, change and opportunity

Countries must insist on innovative solutions and new policies to ensure that when the country emerges from this governance and economic crises, it does so not only aware of the country’s weaknesses, but also primed to effect the necessary changes.
ICID Vision 2030: Organization Goals

Goals

1. Enable higher crop productivity with less water and energy
2. Be a catalyst for change in policies and practices
3. Facilitate exchange of information, knowledge and technology
4. Enable cross disciplinary and inter-sectoral engagement
5. Encourage research & support development of tools to extend innovation into field practices
6. Facilitate capacity development
Action Plan:
Strategies to achieve our goals

Goal A: Enable higher crop productivity while using less water and energy

Strategies:

A1 : Modernization of irrigation systems
A2 : Improving O&M of Irrigation Systems
A3 : Implementing water saving techniques and technologies
A4 : Promoting Institutional Reforms
A5 : Supporting water productivity enhancement
A6 : Improving performance of irrigation systems
A7 : Using wastewater or poor quality water for irrigation
A8 : Encouraging participatory management of irrigation systems
CONCLUSION

Collaboration is needed more than ever among governments, private sector, and civil society organizations for joint responses, building on respective strengths and learning from each other.
Irrigation in the Time of COVID-19: preliminary findings by the World Bank

Introduction: Pieter Waalewijn, Global Lead, Water in Agriculture
COVID-19 impacts that we are observing

No major concerns with global food security – for now.

- Staple crop markets are well supplied and relatively stable.

However, we are observing:

- Migration induced pressures on land and water
- Impact of income losses and deepening poverty
- Countries may be facing concurrent crises (pests, conflict, climate shocks).
COVID-19 Specific Impacts for the I&D sector

The need for continuing irrigation service provision during the crisis:

- Lack of liquidity for agencies, with service providers under fiscal stress;
- Restrictions due to lockdowns for facilitation channels and of input supply;
- Reduction in farmer incomes and employment opportunities;
- Pressures on land and water due to migration and reductions in remittances;
- Lack of food security in fragile contexts and marginal rural areas;
- Financing and physical access restrictions for private sector actors (construction, consulting, etc.).

Slowing down of important sector reforms and modernization:

- Infrastructural works are halting, deferred maintenance is incurred, an already low equilibrium for more reliable and flexible service is hampered.
Why this matters today

Protecting the vulnerable through:
- Jobs
- Nutrition
- Businesses

Rebound better:
- More resilient
- Greener
- More productive

From COVID to Climate
- Address weaknesses
- Correct course

Build on strong experience, innovate, and adapt to COVID-19 circumstance
COVID-19 opportunities for Water in Agriculture

Accelerating reform and performance of the sector:

- Providing financial relief and setting goals for improved performance.
- Facilitating green channels for agriculture.
- Improving farmer incomes and jobs; ensuring input supply.

Using irrigation and watershed programs as vehicles for growth:

- Enabling millions of livelihoods through continued service provision.
- Continuing works for ensuring safety and extending service.
- Labor-intensive works in large- and small-scale irrigation and watersheds.
Pakistan turns unemployed workers into tree planters

The Jakarta Post

BUSINESS

Ministry aims to provide income in rural areas with Rp 2.25t irrigation projects

Mardika Parama

The Jakarta Post

Jakarta

Jakarta / Fri. April 24, 2020 / 03:39 pm

The Public Works and Housing Ministry is moving forward with its labor-intensive projects in rural areas, which include the irrigation improvement acceleration program (P3TGA1) to provide steady income for people in rural areas during the COVID-19 pandemic.

European leaders push ‘Green Recovery’ plan for post-Covid economy

Political support for the idea of linking Covid-19 exit strategies to green policy appears to be mounting in EU institutions. Easter, appropriately enough, may have injected new life into the idea.
“Historically, pandemics have forced humans to break with the past and imagine their world anew. This one is no different. It is a portal, a gateway between one world and the next.

We can choose to walk through it, dragging the carcasses of our prejudice and hatred….our dead rivers and smoky skies behind us. Or we can walk through lightly, with little luggage, ready to imagine another world. And ready to fight for it.”

- Arundhati Roy
Farmer and private sector perspectives: challenges, constraints, and opportunities

▪ Mbali Nwoko, Chief Executive Farmer of Green Terrace, South Africa

▪ Alphonse Kizihiira, Independent Producer Farmer, Rwanda

• M. Sina Velioğlu, Country Director of Temelsu for Uzbekistan, Tajikistan, and Ukraine
Mbali Nwoko, Chief Executive Farmer of Green Terrace, South Africa
Alphonse KIZIHIRA - Professional Farmer, Nyagatare District, Northern Province, Rwanda

How COVID-19 is impacting my irrigated farming business and strategies put in place
The ELIM farm and its small-scale solar powered irrigation system

ELIM Farm

- **Area**: 30 ha
- **Location**: Nyagatare District, Eastern province, Rwanda
- **Rainfall**: very weak (827 mm/year) and unpredictable; unable to satisfy the needs of agricultural production and livestock.

![Map of Rwanda showing location of ELIM farm](image)
How COVID-19 is impacting my irrigated farming business

I. The market for agricultural products presents a great challenge. Sales are limited due to the lockdown, and produce is sold at very low prices, as buyers are switching to finished products that can be stored for longer periods of time. Moreover, local markets, hotels, restaurants and other institutions that typically purchase agricultural products have been temporarily closed. However, agricultural (both crops and livestock) products are allowed to be sold in small numbers.

II. Business processes are affected due to limited revenues. As a result, loan repayment has become a challenge. Most irrigation systems were financed through bank loans. Despite absent or limited sales, interest and penalties keep accruing.

III. Provision of irrigation inputs and equipment, repair and maintenance of irrigation kits. It is difficult to obtain irrigation inputs and equipment due to the lockdown policy (most inputs were from India). This has negatively impacted the daily operations of my farm. Thus, I opted to use manual way of irrigation, which is expensive and tiresome, with the output sold at low prices.

IV. Challenges in access to the farm due to the lockdown. No movement has been allowed from one province to another. Thus, I stay far from my farm.
Strategies put in place in response to COVID-19

i. While access to markets remains a challenge, my produce is sold at low prices by individuals who transport the produce to local markets with limited number of buyers. The government tried to allow agricultural products to be sold in markets and by individual shops, but due to lockdown policies, markets are not effective.

ii. The Government of Rwanda is encouraging banks (through dialogue platforms) to provide mechanisms for farmers and other business people for repayment of loans without incurring increasing interest and penalties. I am in the process of negotiating with the bank to ease loan repayment procedures.

iii. While it is hard to access equipment and maintenance services due to the lockdown, I opted to use local methods of irrigation, such as use of horse pipes and watering cans. This is tiresome and costly in terms of labor.

iv. With limited movement and inability to reach the farm, I manage it by telephone but this is not very effective.
Lessons Learned

- There is a need to explore opportunities for marketing and selling of output online (through delivery services).
  - This requires farmers to form producer groups in order to gain competitive advantage.
- As a farmer, I learned how to start engaging local markets and individuals more actively.
- Farmers, especially those in cooperatives, need to be supported and establish processing plants for agricultural produce.
  - There is also need to have post-harvest processing facilities.
M. Sina Velioğlu, Country Director of Temelsu for Uzbekistan, Tajikistan, and Ukraine

Impact of COVID-19 and the role of I&D in Economic Recovery: Private Sector Perspective
Impact of COVID-19 on ongoing I&D works

- Temelsu is still conducting contract management and construction supervision of 38 nr. I&D civil works.

- All contracts have been affected to different extent by the COVID-19 Pandemic
  - Around 10% of the contractors suspended works.
  - Majority of the contractors (about 85%) have continued I&D works, but filed requests for further extension of time.
  - A minority of the contractors (around 5%) have not given any notification or claims.
Besides contractors, consultants are seriously affected as well.

- Whilst all project and consultancy contracts are continuing, international specialists cannot mobilize to the relevant sites and, where possible, have been working from home.

- This is causing disruptions and delays in the timely provision of consultancy services.

For both the contractors and consultant firms, the main impact has been on the expat staff.

- Absenteeism of international staff has also affected employment of local people, whose jobs were related. Some of the local staff have been put on paid or unpaid leave.

- On all construction and consultancy contracts, parties to the contracts have provided notifications and, in some cases, claims to their clients.

  - These hold the potential to evolve into serious disputes between parties to the contracts.
I&D Works and Labor

- The importance of I&D works and agriculture on economy cannot be overemphasized.

- In many Asian countries, irrigated agriculture is the backbone of economies.

- For example in Uzbekistan, irrigated agriculture accounts for 35% of GDP, 60% of foreign exchange receipts, and 45% of employment.
  - In rural areas, agriculture and processing of agricultural products is by far the main source of employment and income for the population.
I&D Works and Labor

The Big Ferghana Canal, which was excavated manually in 40 days in 1939 still serves half of the Ferghana Valley
Role of I&D in Economic Recovery in the Long-Term

- Already serving as the backbone of many economies, especially in developing countries, I&D and agriculture will continue to play a major role.

- How?
  
  ✓ From a private sector perspective, one of the main issue is continuation of flow of funds
  
  ✓ At the start of the pandemic, many contractors (their staff and labour) and consultants had a question in mind: “will our projects be suspended for an unknown time, will I lose my job?” This mostly did not happen.
  
  ✓ Notwithstanding the individual difficulties in each construction and consultancy contract, major MDBs (including the World Bank), by virtue of being the largest, have continued to fund projects. This is very important for the I&D sector and the economies overall, and should be maintained.
Role of I&D in Economic Recovery in the Long-Term

- Difficulties in international transportation is the main problem at the moment, which affects downstream works.
  - In today’s integrated world, many works and services have a transnational character.
- “Necessity is the mother of invention.” Contractors and consultants are trying ways to adapt to the situation. Their methods include the following:
  - Looking for more “highly-qualified” personnel form local community to keep their works and services running. Where this is not possible, companies “train” them. So the pandemic is expected to have a positive impact on the contribution of local communities towards higher quality standards.
  - Private sector companies find new ways of conducting their business from afar. It is expected that more meetings will be conducted online, even after the pandemic is over, and the amount of trips will reduce. This will likely result in (reduced costs and therefore) more efficient provision of services and works.
  - Such new development are expected to improve the quality of service provision and of works at national level.
Role of I&D in Economic Recovery in the Long-Term

- As the impact of the pandemic for both developed and emerging economies shapes a new set of demands, there is a need to look at how water resources and irrigation can be optimized to meet the requirements of coming generations.

- One of the possible routes for this is the use of public private partnerships (PPPs).
  - PPPs have the potential to facilitate an expanded role for the private sector in irrigation, mobilize expertise in the sector, and ensure medium- to long- term sustainability.

- In terms of economic recovery in the long term, the choice is between the use of automated systems versus labor-intensive human power.
  - The trend of using automated systems in I&D has been increasing in recent decades. Whilst these systems are much more in common in developed countries (e.g. Australia), the majority of works and services in the developing and emerging markets are still being done manually.
  - Introduction of automated modern systems (which would eventually decrease human involvement and thereby individual incomes) should be done carefully and in phases.

- For ensuring food security, newly developed projects should take into account not only the construction works but operation & maintenance too.
Service provider perspectives: disruptions and mitigation measures

- Abdul Malik Sadait Idris, Director for Water Resources and Irrigation, Ministry of National Development Planning (BAPPENAS), Indonesia
- Tony Slatyer, Irrigation Australia, National Committee on Irrigation and Drainage
- Vivek P. Kapadia, Government of Gujarat, India
- Marco Arcieri, Secretary General, Comitato Nazionale Italiano, ICID
- Adama Sangare, Secretary of State to the Minister for Agriculture, Mali
- Blanca Jimenez Cisneros, Director of Mexico National Water Commission (CONAGUA), Mexico
- Jenny Rosanna Vásquez Susana, Research Assistant – Engineer, National Institute for Water Resources (INDHRI), Dominican Republic
- Sergio Marinelli, Superintendent General of Irrigation, Departamento General de Irrigacion (DGI), Mendoza Province, Argentina
Abdul Malik Sadat Idris, Director for Water Resources and Irrigation, Ministry of National Development Planning (BAPPENAS), Indonesia

Acceleration of Community-Based Food Security Programs: Handling the Impact of the COVID-19 Pandemic
Provinces with the largest rice production: North Sumatera, West Sumatera, South Sumatera, Lampung, West Java, Central Java, East Java, South Sulawesi, Bali, West Nusa Tenggara.

- All provinces have already contracted the virus. The epicenters are at urban areas, especially in big cities;
- The rural areas have relatively much lower cases compared to urban areas.
- Large rice production provinces seem to have high risk for the virus to spread.
- Based on the current cases and geographical analysis, Bappenas and University of Indonesia have developed risk factor for spreading for each province.

**Java is the main food producer**

- People who return to their villages due to lost jobs in the cities
- Increase of unemployed
- Increase of Poverty Rate
- Population prevalence with moderate or severe food insecurity in 2018. This is expected to rise
- Growth is slowing down or even possibly contracted

As of May 11, no sign of decline yet.
Deflation and Inflation in Crop Prices

Q1 2020 Economic Growth Report

2,84% HH Consumption growth (y on y), much lowered compared to 5,02% in Q1 2019

0,02% Growth in Agriculture (y on y)

-10,31% Growth of crops (y on y) due to shifting planting period in late 2019 and extreme weather condition in early 2020.

Inflation Report April 2020

In April 2020, there was deflation in the agriculture sector (e.g. the price grain at the farmer level and the rice price at rice milling unit).

<table>
<thead>
<tr>
<th>No</th>
<th>Sector</th>
<th>Contribution to inflation in April 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Agriculture</td>
<td>-0,14</td>
</tr>
<tr>
<td>2</td>
<td>Mining</td>
<td>0,01</td>
</tr>
<tr>
<td>3</td>
<td>Industry</td>
<td>0,21</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>0,08</td>
</tr>
</tbody>
</table>

A hike in prices of imported commodities
## COVID-19’s Impact on Irrigation Development

### Smaller State Budget Allocation for Irrigation in 2020

<table>
<thead>
<tr>
<th>NO</th>
<th>ACTIVITIES/PRIORITY PROJECT</th>
<th>Original State Budget 2020</th>
<th>Revised State Budget 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Irrigation, Swamp, and Fishpond Development</td>
<td>220,034.7</td>
<td>211,238.6</td>
</tr>
<tr>
<td>2</td>
<td>Development and Rehabilitation of Surface, Swamp, and Fishpond</td>
<td>8,403,665.7</td>
<td>6,144,441.9</td>
</tr>
<tr>
<td></td>
<td>Irrigation Networks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Supplying and Management of Groundwater and Raw Water</td>
<td>2,603,400.7</td>
<td>1,861,834.6</td>
</tr>
</tbody>
</table>

**FARMER LEVEL:** Farmer’s purchasing power tend to decrease

**RURAL – UNEMPLOYMENT:** Additional burden in rural areas as migrant workers return to villages

### Special Allocation Fund for Irrigation 2020 (Rp. Million)

- Original: Rp 2,050,000
- Revised: Rp 234,308
- Decrease: -88.6%

### Special Allocation Fund Allocation for Agriculture 2020 (Rp. Million)

- Original: Rp 1,500,000
- Revised: Rp 290,378
- Decrease: -80.6%
Emergency Response: Social Safety and Rural Public Health

Emergency Action on Social Safety Net

Conditional Cash Transfers for 10.2 million beneficiaries

Food Stipends for 20 million people

Pre-work card for 5.6 million unemployed

Credit relaxation for small and medium SMEs

Waiver or 50% discount of electricity payment for small power-installed-customer

RURAL SOCIAL DISTANCING
Tactical Response in 2020

ROLE OF ICT & TECH

“Toko Tani Indonesia Center” (TTIC) through the GoShop online feature

farmer to consumers

e-commerce.

Logistical solutions

PARTICIPATORY MAINTENANCE

cash-intensive programs in 33 province USD 150 million

CONTINUE MANAGING FLOOD EMERGENCIES
Medium Term Priority: Irrigation-based Food Security

- Small Scale Irrigation;
- Commodity import substitution;
- Revitalization of Low Land Areas for Agricultural Crops (e.g. Central Kalimantan).
  - The lands used to be part of EMRP (a failed program initiated in 1996 by the government).
  - Will use a landscape-based approach: macro zoning, improving water management, and consolidate previous interventions by multiple government institutions.

Small scale irrigation with poverty alleviation program

Promoting horticulture irrigation

Counter Cyclical Integrated Project
Tony Slatyer, Irrigation Australia, National Committee on Irrigation and Drainage

The Australian Perspective
Effects of COVID-19 on the Australian Irrigation Sector

- **Limited direct effect:**
  - very limited COVID-19 incidence in farming areas
  - some labour shortages from reduced temporary immigration for seasonal labour
  - some supply chain constraints for export commodities (e.g., reduction in international air cargo space, with 58% of food production exported).
  - reduced demand for specialist foods for the restaurant trade
  - some impact on irrigation dependent firms e.g., rice) with overseas operations.

- **Some positives with lasting benefits:**
  - embrace of new and innovative approaches to engagement and customer service, such as online delivery to households, remotes use of remote extension services
  - enhanced social valuing of agriculture due to public concern about food security
    - some panic buying of essentials until supply could be trusted
  - increased participation in irrigation research and extension initiatives e.g., government funded Smart Irrigation Research Program.
Effects on Australian Irrigation

- Rural businesses supplying parts, equipment and repairs for the irrigation sector were considered essential services and have been largely unaffected.

- No significant reduction in the number of development projects in new and refurbished irrigation systems.

- Australia’s relatively good position and the stability of food and fiber demand should continue to attract new investment in the irrigation sector.

- In summary
  
  ✓ COVID-19 has not greatly affected the irrigation sector in Australia
  
  ✓ there have been some real positives, as the importance of the agriculture to social and economic wellbeing of all people has been revealed to the general public, and the capacity of the sector to maintain supply has been demonstrated
  
  ✓ a new result may be that investment confidence in Australian irrigation is boosted.
Vivek P. Kapadia, Government of Gujarat, India

Tapping Into the Potential of Agriculture to Unlock The Indian Economy
Pre-Monsoon Activities Hampered

Pre-monsoon dam inspection and maintenance could not be performed. Tenders could not be processed, contracts could not be executed. This may be possible next April.
Wherever Possible, Works Are Continued

Irrigation and agriculture sectors are maintained to some level of employment even during the lockdown
Irrigation Became a Boon

- Farmers are staying at farms due to last watering and harvesting being seized. Social distancing norms are followed and the villages remained safe.
- Canal water is the only source of irrigation. The monsoons were delayed. Otherwise the sowing period would have been disturbed.
- Harvesting is done by farming families as no other labor force was available.
- Farmers grew fodder for cattle during their stay at farms following the harvesting.
Food Security Made the Fight Against COVID-19 a Little Easier

Food Security Is Equally Essential in the Coming Days of Normalization

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual Food Grain Production (million tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950-51</td>
<td>50.8</td>
</tr>
<tr>
<td>1060-61</td>
<td>82</td>
</tr>
<tr>
<td>1970-71</td>
<td>108.4</td>
</tr>
<tr>
<td>1980-81</td>
<td>129.6</td>
</tr>
<tr>
<td>1990-91</td>
<td>176.4</td>
</tr>
<tr>
<td>2000-01</td>
<td>196.8</td>
</tr>
<tr>
<td>2011-12</td>
<td>257</td>
</tr>
<tr>
<td>2017-18</td>
<td>277.5</td>
</tr>
</tbody>
</table>

300 million people - 144.1 Kg/year per capita (including import) in 1950-51

1,250 million people - 177.9 Kg/year per capita in 2016 (no imports).
Agriculture – A Starting Torque

- Agriculture is considered the backbone of the Indian economy and offers a starting torque.
- Water and agriculture sectors together receive only 14% of the government’s budget. However, agriculture alone constitutes 17% of India’s GDP.
- Therefore it does not serve the function of social security. Rather, it is a profitable sector.

Focus area of the Government of Gujarat

To Be Unlocked
Marco Arcieri, Vice President and Secretary General, Comitato Nazionale Italiano, ICID

The EU Approach: Italy’s case
Impact and Recovery from COVID-19 in the Irrigation and Drainage Sector in Italy

Topics covered:

▪ Impact of COVID-19 on agriculture in Italy.
▪ Major impacts of COVID-19 specifically related to irrigated agriculture in Italy.
▪ The EU coordinated response to COVID-19 epidemic to counter the economic impact.
▪ Ensuring continuity of critical service delivery and the vulnerable in accessing irrigation services.
▪ New ways of work that might improve service provision post-COVID.
Impact of COVID-19 on Agriculture in Italy

- The impact of the Covid-19 pandemic for Italian agriculture varies according to different sectors, with peaks of up to 100% for the agritourism activities, as all 23,000 Italian structures operating have been closed down due to anti-contagion measures.

- The numbers regarding the impact of the Coronavirus 19 leave no room for doubt:
  - Cancellations on orders ranging around 30%
  - Drop in turnover estimated at 40%
  - Fall of presence for farm holidays ranging from 80 to 100%
  - Abrupt stop of the catering channel and closure of related businesses.
  - Export orders reduced to about 70% due to difficulties at the borders.
  - Immediate liquidity is needed for 57% of Italian farms that have had a decrease in their activities due to the Coronavirus pandemic.
Major impacts of COVID-19 on irrigated agriculture in Italy

- Agricultural production cannot be stopped or delayed, so significant problems have arisen.
  - The main problem has been regarding labor force: seasonal workers in agriculture, for many years now, have been made up of a large portion of foreigners, increased from 15 to 20% of the total migrants in the period 2011-2017 (Source: EU Research Center).

- Due to the Covid-19 health emergency, the closure of borders in EU and non-EU countries has hindered the arrival of foreign labor in Italy.
  - This shortage of foreign seasonal workers, therefore, has been greatly alarming producers, who are now facing the lack of manpower for harvesting season.

- This is the reason why the Government has approved the regularization of foreign workers (about 600,000 undocumented people) in the 'May Decree', approved by the Council of Ministers a few days ago.
Major impacts of COVID-19 on irrigated agriculture in Italy

- Unfortunately, Coronavirus has had negative effects on the movement of fruits and vegetables, both within the EU and outside the EU.
  - Italian products were all of a sudden blocked at the borders, on the basis that they could be a vehicle for the virus.
- To date, the situation has improved, thanks to guidelines issued by EU on March 23rd, who established "preferential pathways" for essential products and services, such as perishable products; and provided indications for haulers that can guarantee workers' health and acceptable times for checks.
- Export to non-EU countries, and particularly overseas, has been reflecting the negative wave of lockdown activities, even in countries that had been affected earlier by the coronavirus and where there was no container availability, for example.
EU coordinated response to COVID-19 pandemic to counter the economic impact

State Aid Framework Flexibility
(as of May 4th 2020)

- Direct grants, equity injections, selective tax advantages and advance payments of up to €100,000 to a company active in the primary agricultural sector, up to €800,000 to a company active in all other sectors to address its urgent liquidity needs.

- Member States can also give up to €800,000 per company zero-interest loans or guarantees on loans covering 100% of the risk, except in the primary agriculture sector and in the fishery and aquaculture sector, where the limits of €100,000 per company respectively, apply.

- State guarantees for loans taken by companies to ensure banks keep providing loans to the customers who need them. These State guarantees can cover up to 90% of risk on loans, to help businesses cover immediate working capital and investment needs.

The European Commission has approved a €30 million Italian scheme to support small and medium-sized enterprises (SMEs) in the agricultural and fishery sectors.
Ensuring continuity of critical service delivery and the vulnerable in accessing irrigation services

- Italy annually deploys 20 billion m³ of water for agriculture and food production, the second EU Country in terms of irrigated surface (2.4 Mha) after Spain (3 Mha).

- In more than half of the irrigated area (1.3M hectares out of total 2.4M), irrigation is collectively managed by water bodies such as land reclamation and irrigation consortia.

- The value of agri-food production accounts for about 270 billion euros (over a total GDP of 1.8), exports are worth around 45 billion. More than 3/4 of this production comes from irrigated agriculture, which employs about 3,300,000 workers.
Ensuring continuity of critical service delivery and the vulnerable in accessing irrigation services

- Throughout the lock down period workers of the Irrigation Consortia have been constantly engaged in the maintenance of hydraulic structures, ensuring daily management operations. the Italian hydraulic network.

- Some have been committed in field services as required, others worked from office but also from home, as a consequence of the smart working option introduced by the Government, thus highlighting a remarkable operational resilience.

- At the same time, the Government is currently working on the hypothesis of opening new construction sites, with investments of around 1 billion €, with the overall aim of improving the Italian hydraulic network.
New ways of work that might improve service provision post-COVID

Sanitary restrictions and human fears have not conditioned public service responsibility, fulfilled by various staff people who, in compliance with the health prescriptions conceived for the containment of the corona virus, have been ensuring service delivery and access to irrigation for farmers.

Of course, this has been possible because of the very efficient network of Governing Bodies that is currently operating in Italy (Irrigation and Land Reclamation Consortia), who in time have been adopting “Smart Systems” for the managing of water resources, such as “IRRIFRAME”. The implementation of such a system, for example, has been greatly enhancing possibility of adopting “smart working” procedures in ensuring service provision.
New ways of work that might improve service provision post-COVID

IRRIFRAME is an Expert System for Irrigation Scheduling developed with the support of UE funds, providing each farmer information on the following parameters:

- Crop water requirements
- Irrigation interval and frequency

IRRIFRAME can be easily accessed by Internet or provided by SMS messages, sent directly to the farmer. The farmer is provided with a password, in order to have the irrigation advice related to his farm.
THANK YOU
Adama Sangare, Secretary of State to the Minister for Agriculture, Mali

COVID-19 Impacts, and Short- & Long-Term Responses
Outline

1. Introduction
2. Impacts of COVID-19
3. Short and long-term responses

Introduction

- Agriculture employs more than 80% of the population of Mali.
- The agricultural sector provides almost 20% of export earnings and contributes 40.4% to the Gross Domestic Product (GDP) of the country.
- Irrigated agriculture contributes between 7 and 10% of national GDP.
Impacts of COVID-19 on the Malian economy

What are the impacts of COVID-19 on the Malian economy and the kinds of support needed to ensure that the I&D sector can continue providing the best possible service?

1. Financial problems:
   - Increase of health sector spending – over EUR 87 million;
   - Decline in economic activity & Drastic reduction of budget revenues (tax and customs) – over EUR 417 million.

2. Impacts on agricultural sectors
   - Price drop of agricultural export products resulted in a loss of around 80 million euro, particularly due to the fall in the price of cotton (the second export product, supporting more than 4 million Malians).
   - The closure of borders has impacted the import and export of agricultural products because of the geographical location of Mali (landlocked country) compared to countries with access to the sea.
Impacts of COVID-19 on the Malian economy

3. Impacts on the mobilization of the workforce
   Shortage of labor on large hydro-agricultural development sites, which will cause the delay in the delivery of the developed areas planned this year;

4. Unemployment
   ▪ Transport sector because of the closure of border;
   ▪ Hotel and tourism sector due to the suspension of commercial flights and the closure of borders
Mali's response to COVID-19

1. Short-term responses (general):

Unprecedented response measures have been taken by the Government of Mali against the COVID-19 pandemic.

- Household support measures:
  - A special fund of over EUR 152 million for the most vulnerable families;
  - Free distribution of 56,000 thousand tonnes of cereals and 16,000 tonnes of livestock feed to vulnerable populations affected by Covid-19;
  - Exemptions granted on imports of rice (160,000 tonnes) and milk (6,000 tonnes);
  - Free social brackets on water and electricity bills for two months (April and May);
  - VAT exemptions on electricity and water bills of all consumers for three months.

- Business support measures:
  - Tax rebates to impacted private companies;
  - Moderation of penalties resulting from tax audits.
Mali’s response to COVID-19

2. Long-term responses:

- The Malian economy remains dependent on the agriculture sector. Faced with the challenges of food insecurity accentuated by the impacts of COVID-19, irrigation could play a key role in the Malian economy recovery.

- Irrigated agriculture allows for: (i) securing agricultural production; (ii) increasing production and productivity; (iii) lowering the need for imports through effective national agricultural production.

- The Governmental Development Program (PGA) of 70,000 hectares implemented over the period 2019-2023 (with an investment of 423 million euro) aims to support post-COVID-19 economic recovery.

- Some actions necessary to ensure that the I&D sector can continue to provide the best possible service:
  - Conversion of hydro-agricultural developments from partial water control to full water control;
  - Mobilization of the necessary financial resources for the current and future needs of irrigation;
  - Promotion of water-saving irrigation technologies;
  - Promotion of PPPs in investment programs;
  - Implementation of annual maintenance programs for hydro-agricultural developments;
  - Creation of agricultural tracks between production and marketing areas; and implementation of an agricultural equipment program.

These actions will be implemented within the framework of the Governmental Development Program (PGA) on 70,000 hectares.
Blanca Jimenez Cisneros, Director General, Mexico National Water Commission (CONAGUA), Mexico

COVID 19 & Irrigated Agriculture
Actions to preserve food security are divided into two areas:

1. Assistance and support to agricultural producers:
   a) 86 Irrigation Districts - 3.28 million hectares
   b) 50,735 Irrigation Units - 4.03 million hectares
   c) 23 Technified Rainfed Districts - 2.8 million hectares

2. Water infrastructure construction:
   a) “Centenario” Channel
   b) “El Chihuero” Dam
   c) FONDEN
   d) Dams and channels (Headworks) rehabilitation
   e) Soon to begin: “Santa María” Dam
1. Assistance and support to agricultural producers:

- Maintain agricultural production: 84% advance of irrigation in planted areas.
- Pumping operations to aid agricultural irrigation.
- Federal investment programs for $247.37 Million Dollars ($5,902.2 MDP).
2. Construction of water infrastructure

“Centenario” Channel

- Approximate length of 58.63km – encompassing the municipalities of Rosamorada, Ruiz, Tuxpan and Santiago Ixcuintla, Nayarit.
- Incorporation of 43,105 new hectares to grow green chili, beans, corn, tomato, grain sorghum, mango, rice and tobacco.
- Construction is divided into 5 stages. Stage Two is currently being carried out, with an investment in 2020 of $24.22 Million Dolars ($578 MDP).
We are working around the clock. This has enabled SEDENA to generate 360 direct Jobs.

15% are carried out by women
Jenny Rosanna Vásquez Susana, Research Assistant – Engineer, National Institute for Water Resources (INDHRI), Dominican Republic

Impact and Recovery from COVID-19 in the Irrigation and Drainage Sector in the Dominican Republic.
Impact and Recovery from COVID-19 in the Irrigation and Drainage Sector in the Dominican Republic

- **Hispaniola**: 76,192 km²
- **DR**: 48,442 km²

**Agriculture**:
- 6% of national GDP, Crops: GDP
- Crop agriculture: 4.1% growth rate (2019)

**Agriculture**:
- 16.73% of “Jobs” Informal labor market, 9.27% of total workforce, 30% jobs in rural areas (2019)

**ECLAC (UN)**: DR is the only country in Latin America whose economy will not be contracted with impact of Covid-19 (April 2019)

**Irrigation**:
- Irrigated area: 310,000 hectares
- Irrigation: 20% of cultivated land
- Irrigation: nearly 55% of agricultural produce

**Water Users Associations (WUAs)**: 40

**Farmer irrigated land**: 90,000

**Cultivated area in Irrigated fields**: 280,000 hectares
How has work been affected in the I&D sector in the presence of COVID-19 in the Dom. Rep.

**System Operation:**
The water resource has been delivered to each user.
The maintenance of the irrigation and drainage channels has not been interrupted.
The dam operation measures and water allocation from reservoirs have been carried out without inconvenience, in spite of drought impacts.
No crops have been lost

**Economy of WUAs:**
A reduction in working hours.
The fee-collection for water use has been reduced significantly, considering that they are at the beginning of the fiscal year and the flow of payment is greater than other times of the year.
This because the monitoring of collection has decreased due to the pandemic.
How has work been affected in the I&D sector in the presence of COVID-19 in the Dom. Rep.

Government & participation:

- Elimination of face-to-face meetings with producers and irrigation managers.
- Some illegal connections have occurred due to a decrease of the security staff and working hours.
- Participation in decision making is narrower than before, due to restrictions.
- Farmers are feeling isolation from WUAs and uncertainty regarding the information and decision-making of the operations of the irrigation services.
Adopted measures for the accurate duties on the related irrigation and drainage

Rotating schedules in the personnel for the delivery in the resource to the users.

Maintenance and incentive of economic support from the government.

Cleaning on priority canals with use of heavy equipment due to the advantage of reducing the number of personnel working.

Maintaining the regulated distance, worker brigades are actively cleaning and draining canals.

Inclusion of the staff of irrigation boards (WUAs) with reduced hours in the government subsidy program (Employee Solidarity Assistance Fund PHASE) for the payment of 70% of the employee’s salary for institutions and companies (for 3 months) and the rest paid by the employer.

Economic support from the Dominican government for these activities starting with heavy equipment.
New ways for rendering services after COVID-19: A look at the future

Investments are needed for:

- Implementation of technology with sowing and harvesting machinery.
- Education in new hygiene protocols for coexistence at work as well as at the time of harvesting and packaging of the product.
- Modern irrigation technology.
- Implementation of software technology for remote control of crops, production and irrigation.
- Automation of the operation of irrigation systems.
- Virtual education and training programs for producers.
Sergio Marinelli, Superintendent of the Mendoza General Department of Irrigation (DGI), Argentina

The case of the irrigation and drainage sector in Mendoza, Argentina
Main features of the irrigation and drainage sector in Mendoza

- **Geographical location:** Western Argentina, fourth provincial economy (24 provinces), 2 Million people dedicated to oil production, energy, agriculture, industry and services.

- **Water and climate:** arid temperate climate, rainfall 155 mm/y, all economic activities depend on the efficient use of annual run-off from the Andean range 4,500 Mm$^3$ and abstraction of 1,800 Mm3 from deep aquifers.

- **Irrigated area:** 280,000 has (15% irrigated area in Argentina), 38,000 farmers. Main national producer of grapes, vegetable and fruit trees (5 % of the Mendoza GDP)
Main features of the irrigation and drainage sector in Mendoza

- Institutional framework: General Irrigation department DGI (1894) is an autonomous decentralized water regulatory agency and bulk water provider (with 550 DGI staff and 700 WUA staff, annual budget of 20 US Million/y).

- DGI Functions: to regulate and administer water rights for all economic sectors and uses. Water services are provided by WSS utilities and Federations of WUA (public non-gov) to individual clients (municipalities, agriculture, hydropower, oil, mining, industries, recreation and environmental users/uses).
Impact of COVID-19 in Argentina and Mendoza Province

- Strict full lockdown since March 20, 2020 has produced positive effects in flattening the curve but with great economic losses (20% GDP) accelerating unemployment, fiscal deficit, and inflation.

- The global collapse of the oil prices and economic activities is drastically reducing provincial revenues and budgets.

- However, agriculture and irrigation are the less affected sectors.

- DGI, depending a 100% on user water charges, is expecting a decline in revenues that would affect operations and future development plans.

- In minor works, investment cuts for the 2020 program will reach 60% (from 3.5 US Million to 1.5 US Million).
1. How do we support service providers to ensure continuity of critical service delivery and the vulnerable in accessing irrigation services?

• DGI is in charge of bulk water provision to all uses. Water supply and sanitation is a priority sector followed by irrigation, energy (hydro and thermal plants), oil production and processing, and industries.

• Hydrological forecasts indicate that 2020 will be the 10th year of the drought (with 50% of average run-off)

• Water utilities operate treatment plants provide drinking water to 2 million people. 96% of wastewater is collected and treated (at secondary level) and reused in controlled agricultural production for specific crops (wastewater is not mixed with freshwater).

Key actions launched by DGI during the pandemic are to:

✓ Secure continuity of water provision to allow all citizens to follow health safety measures recommended (WASH).

✓ Launch an early detection program of Covid-19 and other emerging contaminants in wastewaters and irrigation canals (with Universities and Ministry of Health).

✓ Secure continuity of irrigation services (WUA), O&M and development works.
2. Actions to safeguard proper management of ongoing I&D works and maintenance of existing ones

Supporting technically and financially water user associations (154): WUA members are responsible of O&M of infrastructure within the WUA domain (2\textsuperscript{nd}-4\textsuperscript{th} level) based on in-kind and cash contributions. Small-scale and poor farmers will be supported and assisted by federations of WUAs and DGI (agriculture inputs, etc.). Reduction (50\%) in the salaries of DGI top management officers.

Protect O&M workers: DGI personnel in charge of the I&D systems and construction companies engaged in rehab and development of new infrastructure are being trained, to work under Covid-19 conditions and health measures, taking all the safety actions required.

Continue upgrading hydro-met telemetric system and extending use of RS and drones for supervision of irrigation and drainage services, cultivated area and progress of construction and rehab works. Expanding use of telemetric supervision, automation and telecontrol.

Monitoring and safeguarding working conditions in irrigation with treated wastewaters: quality of water ensured through existing treatment plants (5m\textsuperscript{3}/s) distributed to farmers in special zones and agricultural products will be controlled and monitored to detect COVID-19.
3. Actions to manage the economic aspects at post-COVID reopening

Economic downturn: Due to a drop in tourism (key activity in Mendoza) and oil prices, agriculture remains a major economic activity in the provincial economy. Irrigation season, after winter closure (September to May), will be crucial to provide employment and enough production for national and international markets (vegetable, fruits, trees, olive oil, and wine).

Drought management: Efficient use and management of irrigation schemes will require additional attention because of the continuation (for the 10th year) of the largest drought in the last 50 years, exacerbated by “La Niña” of 2020.

Planning and consultation: Water allocation and distribution performed in consultation of WUAs is crucial for efficient water saving policies, management of high dams and night reservoirs to ensure a better irrigation service, especially for small producers who are most vulnerable.

Interinstitutional coordination with the other Mendoza’s Government ministries and stakeholders, rural extension services and agriculture and water research institutions like National Institute of Agricultural Technology (INTA), National Water Institute (INA) and international institutions

Funding: Requests to International Financing Institutions to make credit processing more flexible.
4. New ways of work have we discovered that will improve service provision post-COVID

1. Improvement of customer service system via telephone and online.

2. More frequent use of videoconference meetings with regional offices and WUAs, as well as hom-based working for DGI staff.

3. Continue upgrading hydro-met telemetric system (operational since 1997) to monitor and forecast water resources and to operate dams and canals (120 RTU reporting real time via radio and satellite).

4. Extending use of RS and drones for supervision of irrigation and drainage services, cultivated areas, and progress of construction and rehab works.

5. Expanding use of telemetry, automation, and telecontrol.

6. Implementation of more online administrative transactions and bidding processes.

7. Payment of salaries and suppliers, collection of water charges online.

8. Implementation of a COVID-19 detection project in wastewater together with universities, research institutes, and provincial public institutions.
Labor-intensive public works: placing irrigation at the forefront of recovery

Kamel Boulehmi, National Project Coordinator, ILO/European Comission Project, International Labor Organization (ILO), Algiers Country Office

Employment-Intensive Investments Program (EIIP): Lessons from Tunisia
Introduction

The COVID-19 pandemic has negatively impacted multiple sectors – economically, socially and environmentally.

The irrigation and drainage sector has been facing some serious challenges affecting the life of different actors through:

- Disruptions in the provision of irrigation and drainage services;
- Delay in infrastructural maintenance.

The ILO’s Employment-Intensive Works approach was successfully-tested in Tunisia. It demonstrated itself to be a solution to the above-mentioned challenges.

So, what is the Employment-Intensive Works Approach about?
Employment-intensive investment approaches

- **Main purpose:** To enhance the employment outcomes of public investments in infrastructural and environmental works supporting groups of society in vulnerable situations.

- Approach to be applied wherever technically feasible and economically viable to develop and maintain infrastructure while producing a positive impact on employment creation and income generation.

- The ILO’s emphasis is on the quality of works, productivity, optimizing local resources, capacity-building and the creation of decent employment.

- Irrigation works can address the new demand for creating jobs as a result of the economic impact of COVID-19, with additional preventive and mitigation measures.
ILO’s Employment-Intensive Investment Program

1. A holistic, inter-sectoral approach: employment issues, poverty reduction, improvement of working conditions, gender equality, etc.

2. A local resources based approach: local materials, local knowledge, local institutions, local SMEs, local labour, etc.

3. Enabling legal framework to facilitate access to public contracts and fostering transparency in the allocation of public resources

4. Efficient and employment-friendly management of contracts (cost control, social and environmental clauses, etc.)

Global Webinar on the Impact and Recovery from COVID-19 in the Irrigation and Drainage Sector,
ILO’s Employment-Intensive Investment Program

5. Devolution of responsibilities and related institutional reforms, social organization, local planning and procurement within local communities.

6. Training sessions (senior managers, decision-makers, social partners).

7. Strategic partnerships between the public and private sector, through contractual systems and procedures.
Integrated local development and hydro-agricultural water resources project:

An Example of hydro-agricultural arrangements at KESRA - Tunisia

Before

After
1. Water efficiency:

- 50 Ha of irrigable agricultural land;
- Construction of «Seguiias» (canals) - about 2 km, and 10 water tanks of 30 m³ using local stones (on rugged ground with a sharp slope);
- Nearly 3 000 working days using 3 contracted SMEs;
- Resulting in better water distribution and reduced irrigation time.
2. Water and soil conservation:

- Construction of retaining walls (240 ml) using local stones and gabions (600 m³);
- Recovery of 2 ha of exploitable land;
- Planting of new fig trees and a return to commercial gardening;
- Using:
  - Nearly 1200 Working days;
  - 1 SME contracted;
  - 1 Cooperative (Community Contract).
3. Eco-tourism:

- Construction of an eco-tourism circuit (1 km);
- An artisanal unit for processing local agricultural products;
- 20 rural women beneficiaries;
- Using:
  - 1 SME contracted;
  - 700 working days.
4. Protection of the environment:

- Installation of stone niches and iron cages for collection of plastic waste;
- Elimination of water losses.
5. Community Impact:

- Providing a financial injection by creating direct working days;
- Hiring of handicapped persons in the monitoring of irrigation and management of water distribution;
- Hiring of women for maintenance works;
- Building capacity for 140 farmer beneficiaries;
- As a result:
  - Farmers' income increases by 60%;
  - Improvement of environmental protection;
  - Organization of festival of local products of farmers.
Q&A and closing: Looking ahead

A discussion moderated by IJsbrand de Jong, Lead Water Resources Management Specialist, World Bank.

Please use the chat function in WebEx to submit your questions.

Please be sure to indicate if your question is for a specific speaker.
Thank you!

A recording and a brief proceedings report will be shared in approximately two weeks.