



DHI MARKET AREA: AQUACULTURE AND AGRICULTURE

AGRICULTURE

Ensuring a sustainable growth in agricultural production

The world population is anticipated to touch more than nine billion people in 2050 – one third more than current numbers. To ensure future food security, the Food and Agriculture Organization (FAO) estimates that global food production needs to be augmented by 70%. This includes growth in cereal production as well as crop production. It also necessitates more lands to be made arable, with more extensive and efficient irrigation. All this will challenge fresh water resources, water quality as well as ecology and ecosystem functions and services. In order to be sustainable, agricultural production must therefore be increased in a stable and environmentally friendly way. It must also cope with the unevenly distributed access to resources, technology and infrastructure, as well as with the impacts of climate change.

THE CHALLENGES

- Meeting the need for more resource-efficient and intensive production
- Mitigating agricultural pollution (for example, diffusing nutrient and pesticide pollution)
- Coping with climate change impacts (such as greater flooding risks and increased water scarcity)
- Achieving more efficient agricultural drainage
- Increasing efficiency with regards to irrigation and water use
- Managing land use to control erosion

OUR APPROACH

Managing the future need for increased agricultural production and balancing it with consequent environmental impacts are complex issues. They require novel and advanced knowledge and technology. At DHI, we develop these solutions and share them with you. They empower you to make sound decisions to holistically plan and execute management strategies and policies, which help meet the future need for food security.

OUR SOLUTIONS

- Integrated nutrient and pesticide assessments evaluating present or future management scenarios
- Flood warning systems enabling more resilient farming systems
- Irrigation management optimisation
- Erosion assessments mapping erosion risk and evaluating present or future management scenarios
- Remote sensing providing data for precision farming system optimisation

THE ULTIMATE GOAL ENSURING FUTURE FOOD SECURITY

To ensure food security in 2050, food production must be **increased by 70%**, including a 50% growth in cereal production

Food and Agriculture Organization (FAO)

OUR TOOLS AND SERVICES

We can provide you with everything you need to achieve increased agricultural production in a stable, sustainable and environmentally friendly way. Our tools and services include:

- integrated catchment, ground and surface water information systems
- river basin planning systems using MIKE Powered by DHI software platform, including MIKE BASIN—a river basin simulation package
- crop modelling using DAISY, in combination with:
 - groundwater modelling with MIKE SHE
 - Geographic Information System (GIS) data with our DAISY GIS Graphical User Interface (GUI)
- remote sensing of crop health using satellite imagery
- water quality monitoring programmes
- online data acquisition
- pollution loads assessments
- Decision Support Systems (DSS) for irrigation schemes
- capacity building and training by THE ACADEMY by DHI

Contact us: info@dhigroup.com
For more information visit: www.dhigroup.com