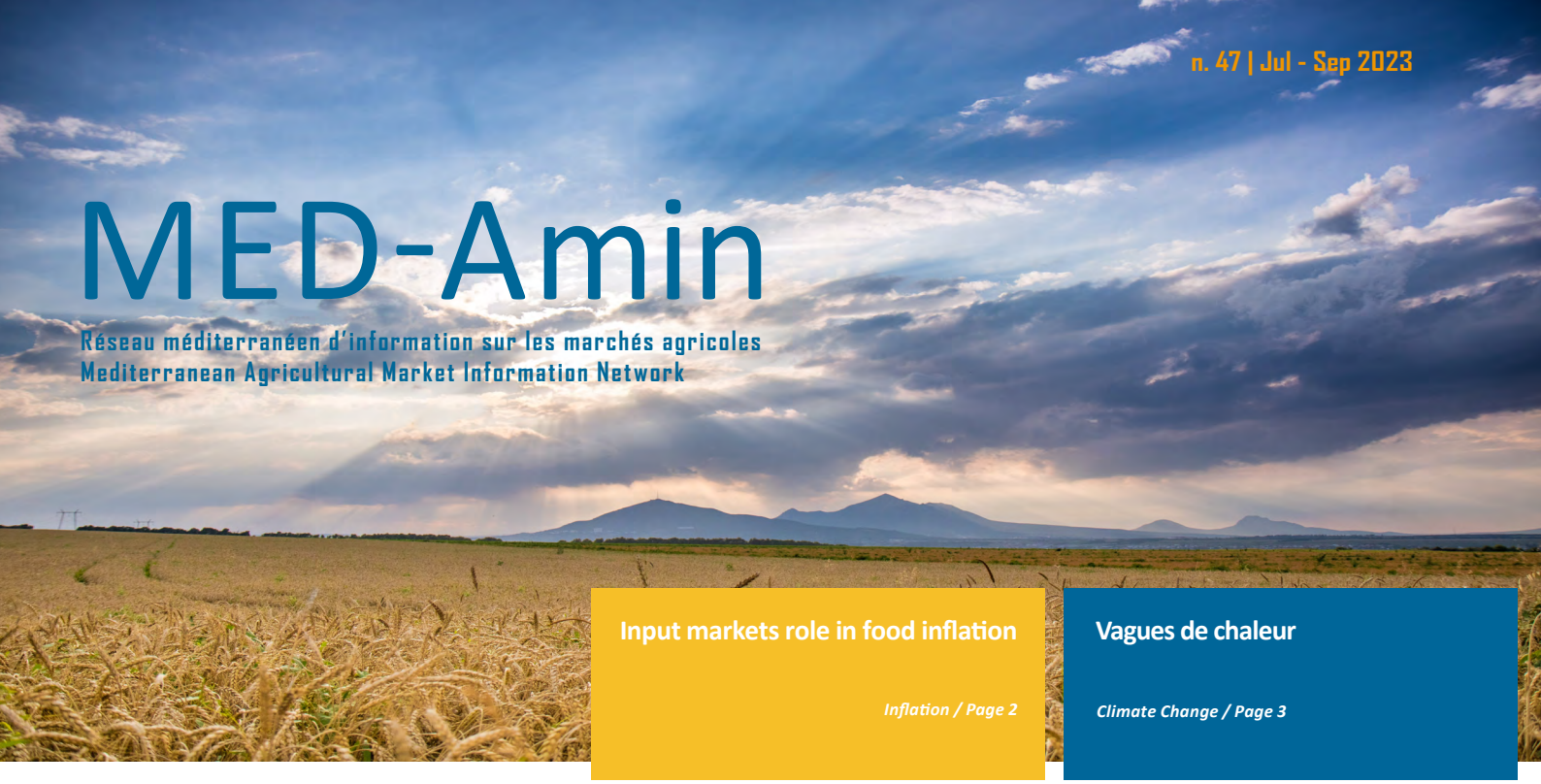
n. 47 | Jul - Sep 2023

MED-Amin

Réseau méditerranéen d'information sur les marchés agricoles
Mediterranean Agricultural Market Information Network



Input markets role in food inflation

Inflation / Page 2

Vagues de chaleur

Climate Change / Page 3

Edito

Alors que les récoltes des cultures d'été (olive, raisin, maïs, riz, etc.) se poursuivent, les prévisions précoces de récolte diffusées par le réseau en juin sont confirmées par les premiers résultats officiels de production 2023 en blé et orge. Les productions céréalières ont été moyennes dans la plupart des pays du Nord et de l'Est de la région, mais pas dans ceux du Maghreb et de la péninsule ibérique, très affectés par les sécheresses.

Au Maghreb et dans la péninsule ibérique, les sécheresses ont perturbé le développement des cultures – en particulier dans l'intérieur des terres – les pluies de printemps étant arrivées trop tardivement. Les productions de blé y sont inférieures à la moyenne quinquennale : -23% au Maroc, -22% en Algérie et -40% en Espagne. L'augmentation des niveaux habituel d'importations a été anticipée par plusieurs pays de la région méditerranéenne, avec le souci d'une diversification des origines afin de limiter l'impact de chocs structurels tels que ceux occasionnés par la guerre en Ukraine. Cette diversification reste cependant limitée par la forte concentration du marché du blé ; l'Union européenne et la Russie restant les principaux fournisseurs de la région. Dans plusieurs de ces pays exportateurs, une dégradation des conditions de culture en fin de campagne (dues notamment à une humidité excessive) conduit à porter une attention accrue à la qualité des grains.

A la faveur de leur déplacement à Montpellier, la Présidente du Conseil d'administration du CIHEAM, Madame Frida Krifca, et le Secrétaire Général du CIHEAM, M. Teodoro Miano, tous deux nouvellement élus, ont discuté avec l'équipe du secrétariat du réseau MED-Amin des enjeux de court et moyen terme du développement de ses activités.

Il s'agira d'abord de réussir la première réunion des « Référents Stratégiques » nationaux de MED-Amin, qui se tiendra à Paris (France), les 30 novembre et 1er décembre 2023, à l'invitation du Ministère de l'agriculture, de la pêche et de l'alimentation espagnol, président du réseau, et du CIHEAM. Cette réunion doit fixer des orientations pour le futur Plan d'action MED-Amin 2024-2026. Elle débouchera aussi sur un « Policy Brief » sur les besoins prioritaires des pays méditerranéens en matière d'information pour la prévention et la gestion des crises alimentaires, et les stratégies de contingence. Elle dressera enfin des pistes pour renforcer la coopération régionale.

La poursuite de la construction d'un Système d'alerte précoce en Méditerranée pour la sécurité alimentaire constitue également un objectif stratégique fort de MED-Amin et une opportunité indiscutable pour le renforcement de la coopération régionale autour des enjeux de sécurité alimentaire et d'adaptation aux changements climatiques. Ces sujets seront au cœur de la prochaine réunion plénière des Points Focaux du réseau, prévue en Albanie au premier semestre 2024.

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TÜRKIYE

Bearing Tight Durum Supplies

(Tridge, 23/07; Reuters, 30/08; DTN, 21/09)

Türkiye, which is an important importer of durum wheat, started to export notably to the European Union (e.g. Italy). While intensive imports and a productive harvest caused a drop in domestic wheat prices, increasing foreign prices came to the rescue of the farmer. Increase in durum wheat prices abroad made prices in Türkiye attractive, and some companies started to export durum wheat. Traders said Türkiye is tapping a bumper harvest, now seen to compete with Canada's production estimated at 4.1 Mt, and high stocks to reverse its usual role as an importer. According to trade experts, exports are expected to reach 500,000 tons and up to 1.5 million depending on government export approvals.

UKRAINE

Exports Plunge

(World Grain, 25/09; BBC, 27/09)

Ukraine grain exports from Sept. 1-24 fell by 51% compared with the same period in 2022 (1.57 Mt vs 3.21 Mt), Reuters reported, citing data from Ukraine's agriculture ministry. Since pulling out of the grain deal, Russia reinstated its blockade of Ukraine's Black Sea ports, although Ukraine recently has begun shipping grain on a route that hugs the country's coast - through Romanian and Bulgarian waters - to be safe from Russian attack. Russia also has stepped up its attacks on grain infrastructure at Ukraine's Black Sea ports and on the Danube River over the last two months. Wheat and corn exports for the current year are forecast at a combined 30.5 Mt, down from 45.1 Mt in 2022-23 according to USDA. Ukraine has been exporting an increasing amount of grain from Reni and Izmail, on the Danube river, by road and rail, through neighbouring countries such as Romania and Moldova, in addition to this new coastal maritime route.

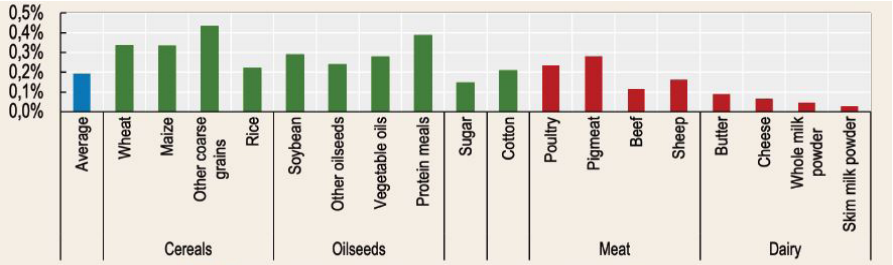

Figure 1. Change in agricultural commodity prices due to 1 percent increase in N, P, K fertilizer prices

Source: OECD/FAO (2023), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-outl-data-en

CHANGE IN AGRICULTURAL COMMODITY PRICES DUE TO 1 PERCENT INCREASE IN N, P, K FERTILIZER PRICES

Fuelling food prices: the role of fertilizer prices

Feature Article of the AMIS Market Monitor, No. 111 Sep. 2023.

The surge in agricultural input prices experienced over the last two years, especially those relying on energy derived from fossil fuels such as mineral fertilizers, has raised concerns about global food security. **Mineral fertilizers play a key role in agri-food sector by providing essential nutrients** (nitrogen (N), phosphorus (P), and potassium (K)) for maintaining agricultural crop yield and quality. The production of mineral fertilizers depends on the availability of natural resources for raw material and energy to power the synthesis process, so only a few countries supply the market, making these heavily traded commodities sensitive to shocks at global scale.

Mineral fertilizer prices rose sharply in 2021 on account of rising energy and transport costs following the COVID-19 pandemic and the EU/US's ban for Belarusian fertilizer exports. Prices climbed further due to the war in Ukraine and the subsequent sanctions imposed on shipments from Russia, a major fertilizer exporter, with some quotations increasing up to threefold compared to spring 2021.

A scenario analysis in this year's OECD-FAO Agricultural Outlook demonstrates how rising fertilizer costs can lead to higher food prices: for each hypothetical **1% increase in N-, P- and K-based fertilizer prices, agricultural commodity prices are estimated to increase by 0.2%** (see figure above), regardless of the initial level of prices. The impact is reflected more severely on crops that use fertilizers as direct inputs. However, even crops with lower fertilizing needs (such as soybean that naturally fixes nitrogen) would experience price increases due to substitution effects. The mixed price effect in livestock products is explained by the difference in feeding across animals. On average, poultry and pig meat would be the most impacted because their production relies heavily on compound feed manufactured from fertilizer-intensive crops.

The fertilizer module of the OECD-FAO Outlook helps quantify the impacts of fertilizer price variations on crop commodities markets. As such, it will provide a **welcome basis for discussions around food security in potential future fertilizer market crises**. It will also help refine the baseline scenario of the Outlook, where global food consumption is currently expected to increase by a relatively modest 1.4% per year over the next decade on account of slower population and per capita income growth. Global production is also expected to grow slower than in previous decades due to a weakening of expected gross returns for producers.

High prices should subsist in the short-term for most agricultural commodities in view of continued economic risks, uncertainty, and high inputs prices. However, in the medium- and long-term growing demand for agriculturaandl commodities is expected to be matched by increased production and improved productivity, leading to flat or slightly declining prices in real terms. To maintain this long-term trend, sustained investments in raising yields and improved farm management remain essential.

Including fertilizers in the model is also relevant from an environmental perspective. Under a business-as-usual scenario, the anticipated growth in agricultural production will result in a 7.5% increase in direct global greenhouse gas emissions over the next decade, with mineral fertilizers accounting for 11% of the overall increase. **Making agriculture less dependent on mineral fertilizers** through the adoption of better farming practices (e.g. crop rotation, better allocation of fertilizers over the season, integration of organic fertilizer) **will contribute to global efforts to mitigate climate change and help alleviate pressure on food security**.

↪ Read the fulll report.

Access to global wheat reserves determines country-level vulnerability to conflict-induced Ukrainian wheat supply disruption (2023)

Bertassello, L., Winters, P. & Müller, M.F., Nat Food 4, 673–676 (2023).

Global food systems are increasingly reliant on international trade. Nearly 60% of the wheat traded on global markets originates from five countries, including Ukraine, which accounted for approximately 9% of global wheat exports before the war. Compounded by dramatic food price increases during the coronavirus disease 2019 pandemic, the war in Ukraine has contributed to a global food crisis that epitomizes the global dependence of food systems on international supply chains, with a particular incidence on most vulnerable countries.

Much has been written about the projected impacts of the Russia–Ukraine war on global food security based on ex ante vulnerability assessment and scenario analyses. Previous studies find evidence of considerable trade diversion to wheat producers other than Ukraine, but the extent to which this coping strategy could be leveraged by countries that are most vulnerable to import disruptions from Ukraine is unclear.

This study finds a 39% decrease in Ukrainian wheat exports in 2022 resulting in >70% import losses in some of the countries most vulnerable to these disruptions, with substantial impacts felt in Egypt, Oman, Saudi Arabia, Libya, Mauritania, Yemen and Lebanon. Differential impacts are a function of access to capital and international trade, suggesting the need for policy measures to defuse an impending food crisis.

↪ Read the full article here.

Des risques météorologiques en Europe de l'Ouest sous-estimés ?

Extrait de l'article de The Conversation, 10 septembre 2023.

Une méthode statistique est classiquement utilisée pour estimer les risques d'occurrence de températures très intenses. Elle repose sur la **« théorie des valeurs extrêmes » qui permet d'estimer une température maximale atteignable à partir de données de température passées**, et donc de définir un « scénario du pire » auquel se préparer. Mais cette méthode statistique prend mal en compte les mécanismes physiques des vagues de chaleur.

Une autre façon d'aborder le problème des températures extrêmes est de considérer les mécanismes physiques atmosphériques qui empêchent la température d'augmenter indéfiniment. Dans une étude parue récemment dans *Environmental Research Letters*, il est montré qu'on ne peut exclure la possibilité d'atteindre 50 °C à Paris – y compris à l'heure actuelle – et que **les estimations statistiques des valeurs maximales sont probablement sous-estimées de plusieurs degrés en Europe de l'Ouest**.

La vague de chaleur canadienne de 2021 était tellement intense que les températures qui ont été atteintes étaient jugées impossibles par les méthodes statistiques. Depuis, plusieurs études ont montré que des événements aussi intenses étaient pourtant simulés correctement par les modèles, ce qui est en un sens rassurant quant à notre compréhension du système climatique. Mais pour évaluer les températures maximales atteignables et préparer nos sociétés à ces extrêmes, il reste que l'application simpliste de la « théorie des valeurs extrêmes » est mise en défaut.

Récemment, une nouvelle théorie, basée sur la physique cette fois, a été proposée pour estimer les températures maximales théoriques atteignables à nos latitudes. Selon cette théorie, des bornes maximales supérieures de 5 à 10 °C aux **estimations statistiques traditionnelles du "scénario du pire" deviennent "possibles"**.

Dans le scénario de vague de chaleur très intense par exemple, il faut en général la combinaison d'un printemps ou début d'été peu pluvieux qui rend les sols anormalement secs, et d'une bulle de haute pression centrée sur la région de la vague de chaleur (anticyclone de blocage). Sur des sols desséchés, la majorité de l'énergie reçue du soleil est utilisée pour augmenter la température de l'air proche du sol. Une particule d'air très chaud est moins dense qu'une particule d'air froid : elle a tendance à s'élever. Comme ce sont les basses couches de l'atmosphère qui sont réchauffées par le Soleil, l'air chaud au niveau du sol monte : on parle de convection. Si la convection est suffisamment intense, l'air chaud peut s'élever très haut dans l'atmosphère (plusieurs kilomètres) ce qui le refroidit du fait de la diminution de sa pression.

Plus il y a de vapeur d'eau dans la particule d'air au départ, plus la condensation est facile : le mouvement ascendant et les chances de précipitations orageuses sont renforcés. L'humidité au niveau du sol joue donc un double rôle pour limiter l'augmentation des températures : elle permet de rafraîchir l'air localement en s'évaporant, et elle limite les augmentations de température en favorisant la convection.

La combinaison d'un anticyclone de blocage et d'une humidité du sol faible peut donc engendrer un "dérapage" des températures maximales atteignables pendant une vague de chaleur. L'étude parue récemment dans *Environmental Research Letters* montre que les températures maximales observées au sol entre des conditions anticycloniques passées (entre 1940 et 1980) et présentes (entre 1981 et 2021) augmentent fortement, entre 2 et 3 °C selon les régions. Cette augmentation est probablement principalement due à des phénomènes d'assèchement des sols liés au réchauffement climatique d'origine anthropique.

↪ Voir l'étude en référence.

FAO Food Index ↔

(FAO, 05/10/2023)

The ***FAO Food Price Index*** averaged 121.5 points in September 2023, almost unchanged from its value in August, as declines in the price indices of vegetable oils, dairy and meat had offset increases in the sugar and cereal price indices. The ***FAO Cereal Price Index*** averaged 126.3 points in September, +1% from August but standing 21.6 points below its Y/Y value. This month's increase was led by a 5.3% increase in international coarse grain prices. After seven months of consecutive declines, international maize prices increased by 7% in September, driven by a confluence of factors like strong demand for Brazil's supplies, slower farmer selling in Argentina and increased barge freight rates due to low water levels on the Mississippi River in the US. World sorghum prices also firmed in September, while barley prices remained essentially stable. By contrast, international wheat prices continued to drop, falling by 1.6% M/M, underpinned by ample supplies in Russia. The FAO Rice Price Index edged slightly down by 0.5% M/M, while remaining as much as +27.8% Y/Y.

IGC Durum Dashboard

Since July 2023, the International Grains Council (IGC) has been providing a new dashboard to increase **transparency in the durum market**. It provides up-to-date supply and demand estimates and forecasts, as well as export price data, along with analyses of the latest trends and developments (an extract of June Bulletin is on the last page).

↪ Read the latest Bulletin by sending a request to the IGC

SCOOPS

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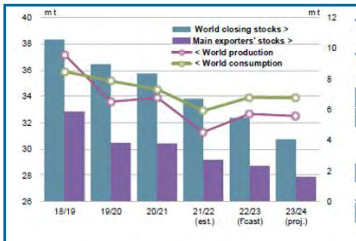
Understanding Global Rice Trade Flows: Network Evolution and Implications (2023)

Chen, W.; Zhao, X., Foods 2023, 12, 3298.

Rice holds a significant position as one of the world's most important food crops, and international trade plays a crucial role in regulating rice supply and demand. Analyzing the structural evolution of the global rice trade from a network perspective is paramount for understanding the global rice-trade supply chain and ensuring global food security. This study utilizes international rice-trade data from 2000 to 2021 and employs various network analysis methods to depict the spatial and temporal patterns of the global rice trade, examines the network topologies of the global rice trade, and reveals the impacts of its evolution on food security. The research findings are as follows: (1) Global rice-trade scale has increased over time, indicating a relatively stable development with the gradual formation of complex rice-trade networks. Since 2000, the global rice-trade networks have shown increasing density characterized by Asia as the primary export source and Africa as an important import market. (2) Network analysis indicators demonstrate a growing trend in the size and density of the global rice-trade networks, along with increasingly optimized network structures and improved network connectivity efficiency. Core positions in the networks are occupied by Thailand, Vietnam, India, China, Pakistan, and USA, while import partners in European and American countries show greater diversification. Asia, Europe, and North America form agglomeration regions for rice-exporting countries. (3) The network backbones of the global rice trade are continuously evolving and being refined, characterized by dominant large rice-exporting countries in Asia and prominent developed countries in Europe and North America. The backbone structures revolve around India as the core, Thailand and Pakistan as the second cores, and critical nodes represented by Italy, USA, China, and Vietnam.

↪ See the article here.

Extract of the IGC Durum Bulletin of June 2023.



mt	20/21	21/22 (est.)	22/23 (f'cast)	23/24 (proj.)	y/y change
Opening stocks	9.0	8.4	6.7	5.5	- 18.6%
Production	33.9	31.3	32.7	32.5	- 0.6%
Total supply	42.9	39.6	39.4	38.0	- 3.6%
Total use	34.5	32.9	33.9	33.9	+ 0.1%
of which: Food	*31.7*	*30.8*	*31.6*	*31.7*	*+ 0.4%*
Feed	*0.8*	*0.5*	*0.5*	*0.4*	*- 19.0%*
Closing stocks	8.4	6.7	5.5	4.1	- 25.5%
Major exporters [a]	*3.8*	*2.7*	*2.3*	*1.6*	*- 29.4%*
Trade (Jul/Jun)	9.0	6.0	8.9	9.0	+ 1.0%

[a] Canada, EU, Mexico, USA

Supply and demand for selected countries and the EU: Projections for 2023/24

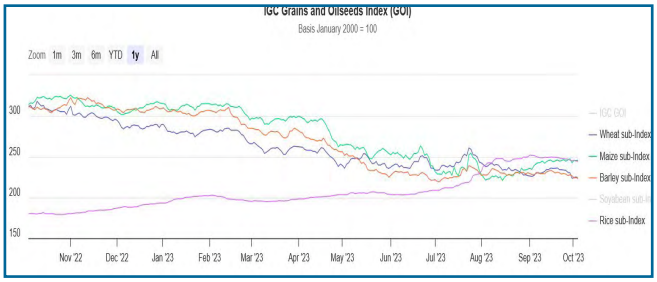
mt	Opening stocks	Production	Change y/y	Imports	Change y/y	Exports	Change y/y	Supply	Use	Change y/y	Closing stocks
Algeria	0.3	1.9	-11%	1.4	12%	0.0	-	3.6	3.4	0%	0.2
Egypt	0.3	0.2	0%	0.1	0%	0.0	-	0.6	0.3	7%	0.3
EU	0.8	7.4	4%	2.8	-3%	3.1	11%	7.9	7.6	1%	0.3
Morocco	0.2	1.2	46%	1.4	23%	0.0	-	2.7	2.6	4%	0.2
Tunisia	0.4	0.5	-53%	0.8	45%	0.0	-	1.8	1.6	-1%	0.1
Turkey	0.3	3.1	-3%	0.4	-3%	2.1	-2%	1.7	1.4	0%	0.2

Notes: IGC forecasts, Grain Market Report as at 29 June 2023. Data for respective local marketing years.
Trade and consumption numbers include durum, semolina and pasta. Numbers may not add up due to rounding.

Trends on Global Markets

	Global Price Index [1] (Sep. 2023)		Supply & Demand in Sep. 2023 [1] From previous forecast (M/M)	From previous season (Y/Y)
Blé/Wheat	232	↘	▲	↔
Maïs/Maize	243	↗	▲	▲
Riz/Rice	249	↗	↔	▼
Orge/Barley	230	↘	n/a	▼

[1]: *Monthly* average in USD, base 100=year 2000, ↗↘↔vs last month (▲ : Easing ; ▼ : Tightening ; ↔ : Neutral, n/a : not applicable)
Sources : AMIS Outlook - http://www.amis-outlook.org and International Grains Council (for the Barley) and the graph below.



The State of Food Security and Nutrition in the World (SOFI) 2023 - *FAO, IFAD, UNICEF, WFP and WHO, August 2023*

This report provides an update on global progress towards the targets of ending hunger (SDG Target 2.1) and all forms of malnutrition (SDG Target 2.2) and estimates on the number of people who are unable to afford a healthy diet. Since its 2017 edition, this report has repeatedly highlighted that the intensification and interaction of conflict, climate extremes and economic slowdowns and downturns, combined with highly unaffordable nutritious foods and growing inequality, are pushing us off track to meet the SDG 2 targets. However, other important megatrends must also be factored into the analysis to fully understand the challenges and opportunities for meeting the SDG 2 targets. One such megatrend, and the focus of this year's report, is urbanization. New evidence shows that food purchases in some countries are no longer high only among urban households but also among rural households. Consumption of highly processed foods is also increasing in peri-urban and rural areas. These changes are affecting people's food security and nutrition in ways that differ depending on where they live across the rural–urban continuum. The report provides recommendations on the policies, investments and actions needed to address the challenges of agrifood systems transformation under urbanization and to enable opportunities for ensuring access to affordable healthy diets for everyone.
↪Download the complete report.

Events

04 11 2023 — Colloque IReMMO : La Méditerranée face aux chocs climatiques : insécurités, conflits, adaptations (Marseille, France)

Des intervenant-e-s du pourtour méditerranéen: scientifiques, décideurs politiques et membres de la société civile interviendront sur les conséquences sur la sécurité alimentaire dans la région. Le CIHEAM sur les insécurités liées au climat et les besoins de coopération.
↪***Voir le site web.***

30/11 01/12 2023 — 1st MED-Amin Strategic Meeting (Paris, France)

Through their collective reflection, MED-Amin national Strategic resource persons will shed institutional and strategic light on the needs (current and anticipated) of Mediterranean countries in terms of information for the management of food crises and contingency strategies. It will be an opportunity to continue and strengthen cooperation in the region.
↪***Voir le site web.***

CIHEAM
International Center for Advanced Mediterranean Agronomic Studies

MED-Amin
Coordination
CIHEAM Montpellier
↪ contact@med-amin.org
Site Web
↪ http://www.med-amin.org