

THE GLOBAL DIWAN'S

Newsletter

CONNECTING
EAST-WEST
LEADERS



The future New Abdali project,
Amman

EDITORIAL

Welcome to our Diwanias !

Dear Friends of the Global Diwan,

Please find our 9th Newsletter with a focus on Jordan.

We continue to introduce our partners with The Iraq Energy Institute.

Many thanks to our contributors, HE Véronique Voulard-Aneini, French ambassador to Jordan, Baki Maneche for his interview on the mission of the French Consular Advisors, Pr. Armand Lattes for his scientific analysis on food security, as well as our artist friend Amal Alzahrani that shares with us her tribute to Beirut.

The Global Diwan Annual Forum on Food Security and Environmental Safety, our first in person meeting was scheduled for the 6 and 7th October. In accordance with the authorities of the city of Nice hosting the event, the Global Diwan will postpone the gathering for a few months to welcome you in Nice at the beginning of February 2022. We are thrilled to already announce the attendance of the HH Prince Albert of Monaco, eager to speak about the

protection of oceans and biodiversity in the Mediterranean Sea.

Then, within the framework of our 9 thematic round tables, our audience will debate with the best experts and companies of the MENA region, what is at stake for food security and environmental safety.

Last, our plenary sessions will explore the perspectives of a Euro-Arab Green Deal as well as the central role of women to tackle environmental challenges under the aegis of our Chairwoman HE Princess Intisar Al Sabah. We also look forward to the exceptional inaugural lecture of Peter Frankopan, Professor of Global History at Oxford University, that will redefine the Euro-Arab dimension of our multipolar world.

To learn more about this preeminent event, the Global Diwan invites you this autumn to join our first Diwaniya in Paris !

Éric Schell

Executive Chairman of the Global Diwan

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Introducing our Partner: The Iraq Energy Institute

THE GLOBAL DIWAN CONTINUES TO INTRODUCE ITS FRIENDS AND PARTNERS. AFTER PRESENTING THE GERMAN ASSOCIATION NUMOV AND THE BEIRUT ENERGY CLUB IN OUR MAY ISSUE, WE ARE PLEASED TO INTRODUCE THE IRAQ ENERGY INSTITUTE.

The [Iraq Energy Institute](#), founded in 2008, has produced original, publicly available research and hosted scholarship on Iraq's energy sector and political economy, with the input of Iraqi and international government and private sector stakeholders. Our aim is to accelerate Iraq's development through greater understanding of the technical and human challenges present in Iraq. The reports, forums and workshops organised by the IEI have gone on to provide strong strategic guidance on Iraq's most important challenges, from increasing investment in oil and gas, to raising power generation and understanding Iraq's water sector and environment. Looking to the future, we have also hosted scholarship, workshops and academic contributions on solar energy and how this can benefit Iraq.

Iraq Energy Institute has become the first Iraqi non-government organisation to directly work closely with major global energy authorities like the Organisation of The Petroleum Exporting Countries (OPEC) and the International Energy Agency (IEA).

In recognition of our many academic contributions to broadening understanding of the political economy of energy, the IEI signed an MOU with the International Energy Agency (IEA) in April 2019 for the purpose of cooperating on analysis and the sharing of datasets. Prior to this, IEI signed a Memorandum of Scientific Research Cooperation with Baghdad University in 2012 and has a partnership with the university's Petroleum and Engineering Faculty.

IEI was founded because various institutions were producing ad hoc analysis of the oil and gas sector in Iraq, but there was no institution specifically dedicated to producing and gathering policy focused research in this area. The ultimate goal has been to harmonise the needs of the international private sector in Iraq, the needs of the Iraqi people and the role of the Iraqi government, as well as expanding the knowledge base of other organisations

and governments interested in Iraq's energy sector. Our organisation has delivered and organised workshops for the private and public sector, as well as academics, covering a range of issues related to the stability of Iraq. These have included workshops on water resources in Iraq with a range of academic experts, which led to a highly detailed report on water resources in Iraq, workshops on public-private partnerships in the energy sector, and many other policy fora, particularly at our annual Iraq Energy Forum in Baghdad.

At the [Iraq Energy Forum](#), we bring together stakeholders from across the field of energy globally, including diplomats, academics, fellow think tank professionals and the private sector. Partnering organisations have included Organisation of Petroleum Exporting Countries (OPEC), International Energy Agency (IEA), United Nations Development Programme (UNDP), United Nations Educational, Scientific and Cultural Organisation (UNESCO), the Atlantic Council, Arab Petroleum Investments Corporation (APICORP), Japan International Cooperation Agency (JICA) and USAID. The outcomes of workshops, as well as talks on the forum, are also recorded for broadcast on Youtube (after airing live on local and regional TV channels) and are also in the form of publicly available reports. These reports have been used for key recommendations on economic reform by the executive and legislative bodies of the Iraqi government, while other IEI research has been used by the World Bank not only for Iraq policy recommendations, but for wider research on economic reform in the Middle East.



INTERVIEW

Interview with Baki Maneche

INTERNATIONAL LAWYER BASED IN PARIS AND BEYROUTH. 



You were recently elected as a French Consular Advisors. What is the purpose of a consular advisor in the French organisation?

France just renewed all its Consular advisors abroad through an election that took place last May 30th.

The French Consular advisors have an advisory and consultative role before the French ambassadors in each constituency. The French ambassadors request the advice of the Consular advisers on matters such as social protection, employment, education and security/safety of French expats in each constituency.

In fact, the French Consular advisors are the perfect link between the French expats and the French administration abroad. They help inform the French administration via the embassies and consulates of all problems met by French citizens abroad. We help create greater proximity between the French expats and the French administration.

What are the practical uses for businesses?

Even though the French Consular advisors are not per se in charge of economic questions, those who have business background like entrepreneurs, consultants, lawyers, bankers..., can play the same role than for normal French expats and French administration abroad.

We create proximity between the French SMEs and the Economic section of the French embassies abroad. Having worked these last years to promote French business and exports to the region I will surely use my election to strengthen our connections with French politicians, government and professional organisations (Medef, CPME, CCI,...) to better help French and European companies in my constituency.

What are your concrete goals for this mandate?

During the last few years the former Consular advisors were not able to create a positive working atmosphere between the French citizens and their administration in my constituency of 9 countries (Afghanistan, Azerbaïdjan, Iran, Kazakhstan, Kirghizstan, Ouzbékistan, Pakistan, Tadjikistan, Turkménistan). I will work tirelessly the next 5 years to ensure French citizens and the French administration work together in a way to address efficiently all problems of our fellow citizens.

Also, as mentioned earlier I will use my election to continue the lobbying in favor of the French and European companies in the region and beyond in the Arabic countries.



FOCUS ON

Jordan

Jordan: A longstanding appeal to French investors

By HE Véronique VOULAND-ANEINI,
French Ambassador to the Hashemite Kingdom of Jordan

The Hashemite Kingdom of Jordan's appeal for French large-scale investments is, definitely, not a recent trend. Jordan has been able to capitalise on its assets to draw the attention of investors, for among all the advantages Jordan provides to investors, French companies value the Kingdom's stability, the quality of its infrastructure, the skilled human capital in various areas, its sound financial sector and its strategic location.

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This decades-old partnership has continuously prospered over the years. France is now the first non-Arab investor in Jordan with more than 1.5 billion euros investments.

The acceleration of French direct investments in the country can be traced back to the period between 1996 and 2000 when our companies won most

of the privatisations launched by the Jordanian government.

This decades-old partnership has continuously prospered over the years. France is now the first non-Arab investor in Jordan with more than 1.5 billion euros investments. The presence of our companies contributes to the enhancement of the priority sectors of the country, enhancing the development of key infrastructures and most vital services such as water, energy, transportation, telecommunications and tourism to name a few.

France and Jordan have built a close partnership in the water sector. Knowing that the scarcity of water in Jordan is the most important restriction on the country's sustainable economic growth, the presence of French companies becomes of utmost significance. Suez, for example, manages the two largest and most important water contracts in the country: the first being the Disi-Amman Conveyor project, which entails supplying the capital with drinking water from the Disi fossil aquifer located about 365 kilometers in the south of Jordan. Suez also built and still operates the As-Samra Wastewater Treatment Plant, which is one of the biggest plants in the Middle East.

The plant treats the wastewater produced by the inhabitants of the capital Amman and the nearby areas to completely reuse treated water in irrigation. In addition to usage of treated water in agriculture, As-Samra is an environmental success with a plant nearly self-sufficient in energy, produced from renewable resources thanks to hydraulic turbines and biogas generators.

Another example of the great successes France and Jordan have achieved together throughout their longstanding relation is the Queen Alia International Airport. In 2020, Queen Alia International Airport was awarded “best airport in the Middle East Region” by Airports Council International for the third consecutive year and the fourth time in its history. The opening of a new terminal a few years ago and the constant improvements in the airport operations enable to double the airport's capacity. This was the first successful airport public-private partnership project in Jordan and the Middle East and until now, this project stands as a model.

In addition to large-scale investments, France has about 30 direct establishments and numerous franchises in Jordan. Some of them have their regional offices in



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French companies employ nearly 30 000 Jordanians when accounting direct and non-direct jobs. The companies also invest in Jordanian human capital through continuous vocational and professional training and job retention.

Jordan, which is yet another testimony to the confidence of our investors in Jordan's position as a vibrant hub to the region.

For many years, French companies have been key employers in Jordan, playing such an important role in the training of the local work force. This is a critical issue for the country, as in the aftermath of the sanitary crisis, which hit the world in 2020, it is witnessing an unprecedented increase in unemployment rates mainly among the youth and women. French companies employ nearly 30 000 Jordanians when accounting direct and non-direct jobs. The companies also invest in Jordanian human capital through continuous vocational and professional training and job retention.

Finally, while it is crucial to retain the current investments and help them thrive, we should also be looking into the future perspectives for our economic ties, I believe that our companies perceive the Jordanian market as a promising access point to the region. However, the efforts made by the relevant authorities to improve the business environment in Jordan have to be pursued and intensified. These efforts are part of a broader structural reform path in which the Kingdom is engaged, both on the fiscal

and legislative framework, within the IMF program. A new law structuring the upcoming PPP projects in the country was adopted recently. Among the projects announced, I would like to mention the Aqaba-Amman water Desalination and conveyor national project which will be the largest water generation scheme to be implemented in the history of Jordan. This project is critical for Jordan's water supply and I hope that the French expertise will be part of it. Our companies have to keep a close eye on the evolution of those mega projects and to capitalise on the valued reputation they have in the market to penetrate new sectors.

France is one of the main contributors to the joint international effort to support Jordan's economy thanks to the AFD (French Development Agency) Group, which has been present in the country for fifteen years, totaling EUR 1.85-billion commitments. During the London Conference in February 2019, AFD has confirmed its financial support to Jordan pathway for growth and jointly identified with the authorities the priority sectors where AFD should focus its operations, with a priority in the water sector. Over the years, thanks to projects financed by AFD, including the landmark projects of

As-Samra Wastewater Treatment Plant or Disi Water Supply Conveyor, 80% of Jordanians have better access to water. To support the development of French companies in Jordan, additional sovereign financial tools are available including sovereign loans, grants (FASEP, a subsidy for upstream studies into projects for infrastructure and innovative technology demonstrators) and credit insurance managed by Bpifrance, the French public investment bank.

France is eager to support Jordan in its resilience and development path for economic growth, job creation and social inclusion. The French companies, backed by the public and private financing instruments at their disposal are ready to engage in this journey with their Jordanian partners. The current post-covid-19 phase offers a unique window of opportunities.



FOCUS ON

Jordan

Water crisis in Jordan, an obstacle to development

By Baptiste Al Sabty

The river Jordan, at the Jordan border with Israel



ACCORDING TO THE UNITED NATIONS, JORDAN IS IN A SITUATION OF ABSOLUTE WATER SCARCITY WITH A POPULATION THAT HAS LESS THAN 500 CUBIC METERS PER YEAR PER CAPITA. AMONG THE POOREST COUNTRIES IN WATER, JORDAN IS THUS CONFRONTED TO UNPRECEDENTED WATER MANAGEMENT CHALLENGES RELATED TO ITS AGRICULTURAL AND DOMESTIC CONSUMPTION.

The dramatic scarcity of water

Jordan has always been a country with limited water resources due to its geographical location. The water management challenges the country faces are more difficult than ever. At the moment, there is only 100m³ of water per capita when there was 3 400 m³ of water per capita in 1946. Jordan has faced between 2020 and 2021 one of the worst droughts in its history. Between October and April, known as the rainy season, only 60% of the usual rain volume fell on the country. The lack of rainfall then had a negative impact on the amount of water available for consumption and agriculture.

Drinking water dams are in fact only filled

to a third of their capacity. In 2020, the Jordan society needed at least 1,3 billion m³ of water to meet its needs but only had 900 million m³ for its irrigated agriculture, livestock farming, household consumption and industry.

Climate change and urbanisation effects

This situation of water scarcity has many explanatory factors. The first of them is climate change. In fact, it does reduce the amount of rainfall in the country and thus accentuate droughts' phenomena and their recurrences.

As a result, it does also increase the salinisation of water. Then, the constant



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This arduous situation could nevertheless be solved by concrete solutions. An innovative one would be to exploit desert groundwaters which have never been used yet. Another solution would be desalination as Israel already does.

growth of demography, urbanisation and industry leads to overexploited soils and polluted surface waters. Jordan authorities do not manage some industrial wastes or regulate the use of pesticides. As a matter of fact, it was estimated in 2015 that 70% of Jordan waters were contaminated.

The Syrian refugee crisis also exacerbates tensions on water. Since 2011, Jordan has welcomed more than 1,4 million Syrian refugees while having previously welcomed about 2 million Palestinian refugees which has increased the needs in water by 20%.

Furthermore, the three main Jordan rivers are weakened by climate change, urbanisation and uncontrolled pollution. The Zarqa river is the most polluted receiving effluents from cities, industries and irrigated agriculture's pesticides. The Yarmuk and Jordan rivers also suffer from neighbouring countries. Israel and Syria indeed pump a large amount of water from both rivers upstream. In 1950, the Jordan river poured 1,300 million m³ of water into the Dead Sea and only between 30 and 200 million

m³ of water in 2005. Israeli, Syrian and Jordan canalizations, pumps and hydraulic installations capture a large amount of the river's water and in the meantime contribute to dry the Dead Sea even more.

Massive investment projects to solve the water crisis

This arduous situation could nevertheless be solved by concrete solutions. An innovative one would be to exploit desert groundwaters which have never been used yet. The water volume contained could be several billion cubic meters. However, such a project is technologically too complex and expensive at the moment to be carried out. Another solution would be desalination as Israel already does. The brackish waters of the Jordan valley could represent 70 million m³ of usable water. In the South, The Aqaba gulf could also represent an unlimited water supply in spite of the technical difficulties of such a project. It would indeed require much investment and infrastructures to distribute water across the country. The Aqaba gulf is far from dense urban areas like Amman

and water would have to be brought on a distance of nearly 400 kilometres.

The most important project, which has been in negotiations for years, is the construction of a canal between the Red and the Dead Sea. On the one hand, the Red Sea-Dead Sea Conveyance would replenish the Dead Sea with 2 billion m³ of water per year preventing it from completely drying up.

On the other hand, nearly half of the water would go through newly created desalination factories powered by hydroelectric plants integrated to the canal. The canal could thus ensure the country's water supply. This project is already supported by the World Bank. Nonetheless, it would cost at least 10 billion dollars and require regional cooperation between Jordan, Israel and the Palestinian Authority which share an access to the Dead Sea. An agreement was signed between the different parties in 2013 but the project is still in its early stages.

FOOD SECURITY

Disruptive Food and Food Security

By Pr. Armand LATTES 

In food, the concept of disruptive food corresponds “to any experience which, through an invention (technological, process, service, marketing, societal) allows the consumption of a type of food or previously taboo, banned or unknown products within a given food culture”. Disruptive foods result from the application of numerous discoveries or new techniques at different levels:

- At the level of foods themselves: edible insects, microalgae, synthetic meats based on stem cells, genetically modified animals for food production;
- Consumption, by acting on the formulation;
- Culture, by using substances that break with authorised uses.

The examination of food products based on edible insects, microalgae and synthetic meats based on stem cells, shows a number of interesting characteristics, as sustainable alternatives to animal proteins, characteristics common to these three families of products. The health risks are limited in these three classes as well as the environmental risks, while the corresponding dangers are well known and manageable.

I. Benefits and risks of eating insects

Insects have many nutritional and environmental advantages:

- They have a very low ecological footprint: their breeding requires very few strategic resources such as water, food and space.
- They produce 100 times less greenhouse gases than “normal” meat

production;

- They are rich in proteins, vitamins, omega, and offer a great diversity since there are more than 2000 different edible species, recognised.
- Sometimes some countries have implemented a traditional sustainable management of these natural resources.

Among these different edible species, four seem to stand out on European farms: the cricket, mealworm, migratory locust and the black soldier Fly (*Hermetia illucens*).

Edibility of insects among French consumers

In 2050, meat production will have to be doubled, or 36 billion farm animals, to satisfy the 9 billion human beings. Insects, rich in protein and polluting little, could one day replace meat: each French person eats about 500 g of insects per year, due to the contamination of part of the fruits and vegetables.

Whether on the internet, in restaurants, or in delicatessens, it was easy to get edible insects. However, all these initiatives are found to be illegal in France, in particular due to a regulation adopted by the European Parliament and the Council. Entered into force on January 1, 2018, it classifies insects as “novel food” requiring authorisation from the European Commission before they are put on sale.

However, on May 4, 2021, the European Union authorised the food use of the larvae of the mealworm, as powder or dried insects. The European authorisation will be formalised “in the coming weeks”. It

authorises the marketing of mealworms in certain preparations.

Insects, a risky practice?

ANSES (Agence nationale de sécurité sanitaire de l'alimentation, de l'environnement et du travail), the National Agency for Environmental Safety and Health, is interested in the dangers of this practice and recommends vigilance, highlighting the following possible problems:

- 1. Allergy risks to be assessed.** Insects contain allergens common to arthropods, such as crustaceans (lobsters, shrimps, etc.): ANSES recommends establishing measures to prevent the risk of allergies both for consumers and in the workplace.
- 2. The possible health risks associated with the consumption of insects and insect products, both in animal and human food.** These are mainly the risks and dangers associated with: (a) Chemical substances and the accumulation of heavy metals (cadmium, lead, etc.) in their bodies; (b) Physical agents (hard parts of the insect such as the stinger, the rostrum, etc.). (c) Parasites, viruses, bacteria and their toxins or even fungi. (d) The breeding and production conditions **which should also benefit from specific supervision.** In general, as with other foods of animal or plant origin, edible insects may become, following **unsuitable storage**, unfit for human consumption.

II. Can we eat seaweed? But what algae are we talking about?

The term “algal biomass” includes microalgae, macroalgae (marine algae) and cyanobacteria (spirulina). Macroalgae are harvested from wild or cultivated stocks, spirulina is mainly produced in open ponds, and microalgae are produced in open ponds or closed systems: photobioreactors or fermenters.

In France, a total of 160 companies produced 188 tonnes of biomass in 2018 for a total amount of € 8.9 million (all algae), i.e. 125 tonnes of fresh macroalgae and 63 tonnes of spirulina. Finally, 7 companies are listed in the culture of chlorella and other microalgae. 2/3 of the cultivation of macroalgae is intended for human and animal food and the remaining third for the cosmetic or pharmaceutical industry.

Among the thousands of known species, only 24 species of algae are authorised for consumption in France (10th algae producing country in the world). Spirulina is intended for the human food sector only.

Microalgae, making up phytoplankton, are the basis of the marine food chain. They are used in aquaculture to feed many farm animals, such as filter feeder bivalves. They provide them with the vitamins and polyunsaturated fatty acids necessary for their development.

Microalgae: interest of saltwater algae

Microalgae play an essential role in cleaning up and regulating the climate. They are also **superfoods** containing 40 to 60% of vegetable proteins and essential nutrients, such as vitamins, trace elements and polyunsaturated fatty acids which meet the characteristics required in nutrition with, for example, a very good omega-3 / omega-6 ratio. These organisms should eventually make it possible to produce 3rd generation biofuels from their lipids, while the capacity of microalgae to produce hydrogen under certain conditions (known since 1940) is being evaluated.

Animal feed

Spirulina is added to the diet of intensively farmed cattle to avoid deficiencies, and it is also used to feed aquarium fish, caged birds, etc. In aquaculture, in hatcheries where

species naturally present in the natural environment are cultivated, microalgae known as fodder are produced, which are used to feed the juvenile molluscs. But in sunny and warm regions, species of economic interest for the agrifood or medical sector are produced in ponds or in photobioreactors.

Human food

Just as freshwater legumes provide protein all over the world, saltwater microalgae could provide nutrient-dense foods. Another example of nutritional interest: microalgae are interesting sources of omega-3. In France, it was not until 1984 that the Superior Hygiene Council gave a favorable opinion on the use of spirulina in human food. Since then, it has been found incorporated into a number of food products.

The development of large-scale production of microalgae therefore appears to be a sustainable economic and ecological solution, in particular as a source of proteins and other nutrients, with the opportunity to cultivate them in salt water.

What are the dangers and risks of microalgae?

- **Risk on the functioning of the ecosystem.** If some microalgae are not toxic their proliferation “can be problematic for the environment” The first of the dangers of microalgae is the lack of control in natural environments: microalgae invade large areas of sea, rivers or lakes, destroying the existing ecosystem.
- **Risk for marine organisms** because some species can produce extracellular toxins “directly released into the environment”, causing numerous mortalities.
- **Risk to human health** from the accumulation of phycotoxins in marine organisms consumed by humans.

Dangers and risks of spirulina

ANSES, published in 2017 the results of a study entitled “Risks associated with the consumption of food supplements containing spirulina” relating to 49 reports of adverse effects such as digestive

disorders, allergies as well as muscle and liver damage. Food supplements containing spirulina can be contaminated with cyanotoxins, bacteria or metallic traces such as lead, mercury or arsenic. For these reasons, ANSES recommends health monitoring, complementary to official monitoring, in the face of unregulated or emerging hazards.

Algae and Toxins

Risks and dangers associated with toxins must be moderated by the results of studies carried out in 2018 showing that among the very large number of known microalgae, only a hundred contain toxins having harmful effects on marine flora and fauna. Currently, these risks are better taken into account and these dangers are under control.

III. Synthetic meats based on stem cells

Synthetic meats are prepared in the laboratory, using tissue engineering techniques, from cells or serum from living animals. The question of whether this new product can legally be called “meat” is the subject of debate: it will be necessary to standardise international regulations. The first cultured burger produced entirely from beef muscle stem cells, from the Dutch start-up Mosa Meat, was tasted in London on August 5, 2013. The first major “artificial” meat projects were launched in the 2000s by NASA. These projects culminated, in September 2019, in the production of artificial meat by a cosmonaut aboard the International Space Station.

In France, essentially two companies are working on the development of cultured meat: duck foie gras from cells taken from a duck egg, and the development of chicken and duck meat from avian cell lines.

Dangers and Risks of Producing Meat with Stem Cells

The ecological cost of cultured meat has a much smaller impact than farmed meat: 45% less energy, only 4% water, greenhouse gas emissions 78-96% lower and 99% lower land use. But the long-term environmental cost is extremely complex

to assess because livestock provide **many by-products** other than meat, they also participate in the **recycling** of significant amounts of plant waste that cannot be consumed by humans and **produce fertiliser**. Pastures also allow **carbon sequestration**.

In a nutrient-rich environment, **bacteria multiply** much faster than animal cells. To control the growing conditions, artificial meat is produced in tanks (or bioreactors) similar to those used by the pharmaceutical industry where sterility is most often guaranteed by the use of **single-use plastic material**. This considerably reduces the risk of contamination, but increases pollution by plastics. Thus endocrine disruptors, can be transferred from plastic containers to cell cultures.

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If one accepts that «the history of food merges with that of water», one may be led to choose among these opportunities. For countries with limited drinking water resources, but with extensive coastal areas, it is the cultivation of saltwater microalgae that seems to be essential.

To obtain in a few weeks in vitro what the animal takes several years to produce, it is necessary to continuously stimulate the proliferation of muscle satellite cells by growth factors, **anabolic sex hormones**. But overexposure to these hormones has well-established deleterious effects. In Europe, the use of growth hormones in agriculture has been banned since 1981 by Directive 81/602, validated by the European Food Safety Authority (EFSA) in 2007. What will be the final concentration of these hormones in cultured meat? And what about releases to the environment as well

as those of growth factors, fetal calf serum, antibiotics and fungicides? Accelerating cell proliferation on a large scale means finding better alternatives to fetal bovine serum, originally used to grow stem cells. This expensive, unstable animal product is incompatible with respect for animal welfare.

What social acceptance for cultured meat?

A study published in August 2020 suggests that the main obstacle to a wider acceptance of French consumers seems to be **the ignorance of cultivated meat, which has exactly the same composition as conventional meat**.

The decisive factors for the adoption of in-vitro meat would be taste, texture and of course the price: the first products will probably be more expensive than conventional meat, but economies of scale will make it possible to achieve parity, even lower the price.

Further other decisive factors would be the unnatural appearance of the product, safety issues and the health effects of the cultured meat.

What about organoleptic qualities?

For a Wall Street Journal reporter who was able to taste a piece of chicken meat produced in vitro, “the texture is more spongy than a chicken breast, but the taste almost beats that of a traditional variety.”

Other points modulating the acceptance of new food technologies by consumers:

- The **political aspects** of the problem: synthetic meat will increase dependence on multinational agro-food companies.
- The **religious aspects**. Would a food offer with “animal-free” meat produced in test tubes make it possible to lift certain dietary restrictions or would it contribute to the reproduction of taboos related to food?

Anyway, the first objective will be to obtain the approval of regulators, such as the European Food Safety Authority. The American administration unveiled a regulatory framework on November

16, 2018, but the production cost is still very high. However, the more research advances, the more these expenses fall, in accordance with a study released in June 2019: 35% of the meat consumed in 2040 should come from cultivated meat.

Ethical problem

Artificial animal meat projects are progressing and ethical questions are inevitably present. In the absence of animal suffering, would this practice be ethical? Logically, consuming artificial meat of any species would no longer pose any problem, be it species usually intended for breeding, protected and / or threatened wild species or even species that humans consider to be pets.

What about meat of human origin?

If we admit the absence of discrimination based on species, then logic dictates that **the consumption of human artificial meat does not pose more problems!**

What is the best solution and what choice should be made between these different alternatives?

If one accepts that “the history of food merges with that of water”, one may be led to choose among these opportunities. For countries with limited drinking water resources, but with extensive coastal areas, it is the cultivation of saltwater microalgae that seems to be essential: an important source of protein, it also offers other applications which largely justify his development.



Black Swans and Geopolitics: Circumventing Maritime Energy Chokepoints

By Zachary Hadley

ZACHARY HADLEY IS WITH [KHALID AL JUFAIRI](#) AND [GABRIEL CHILDS](#) THE CO-FOUNDER OF [ACSIA](#). ACSIA WILL OFFER TO OUR READERS A QUARTERLY ANALYSIS ON MAJOR ISSUES PERTAINING TO THE MENA REGION.

In late March 2021, the world watched as the container ship *Ever Given* blew off course and closed one of the world's busiest waterways for international trade and commerce for six days and seven hours. At the time, estimates placed the Suez Canal obstruction at more than \$9.6 billion in trade losses each day the maritime chokepoint remained closed to vessels transiting between the Indian Ocean and Mediterranean Sea¹. The total costs would eventually exceed more than \$54 billion in trade losses. Global carriers were forced to choose between drastic re-routes around the southern edge of Africa or bottleneck within range of the Suez Canal. The former option would significantly increase time and distance factors by adding on seven additional days of transit time—with costs to be passed on to domestic economies already struggling under the weight of a global pandemic. The latter option might provide a tempting target for terrorist attack or piracy once common in the lower Red Sea and Gulf of Aden.

To critics, excessive globalisation was at fault. The obstruction highlighted the vulnerability of global supply chains to

exogenous shocks stemming from an overreliance on maritime chokepoints². Far-reaching and lofty solutions were required to address a strategic problem by circumventing the Suez Canal completely. To the skeptics, the *Ever Given* obstruction was more adequately defined as a black swan event—a major incident with far-reaching consequences that has a surprisingly low likelihood of occurrence—despite later assertions that it was entirely foreseeable³. Both accounts are seemingly plausible and partially true.

In geopolitics, only geography is permanent. Emerging from the Covid-19 pandemic, the GDP of most G20 economies returned to pre-pandemic levels during the first quarter of 2021⁴. Global energy consumption is expected to grow by 4.6% this year—offsetting a historic 4% drop in demand during 2020. Yet, our post-pandemic recovery remains fragile and hard-won progress against the virus will remain susceptible to reversal in the near-term. Inflation fears, high sovereign debt loads, lackluster employment, and market turbulence increase the risk of a slow and uneven recovery among the

G20 members. In the Global South, the durability of Covid-19 variants and the severe economic shocks from grueling lockdowns will likely accelerate the divide between advanced and developing economies. Yet, emerging markets and developing economies are the primary drivers of increasing energy demands—they are projected to surpass advanced economies consumption by more than 70% in the coming years⁵.

As we turn the corner on the Covid-19 pandemic, the global economy will favor those domestic economies that prioritise international trade and commerce over economic nationalism and retrenchment. Recent U.S. experiences with protectionist trade policies to address trade imbalances sold conjuring tricks to domestic constituents eager for clear answers. Yet, with time it has become clear that the opportunity costs from such policies amounted to little more than the passing of indirect subsidies from domestic consumers to foreign producers. Credible solutions require the recognition that in an era of complex interdependence, a state's vital interests are often intertwined with a

¹ Clark, A. (2021, March 25). Suez Snarl Seen Halting \$9.6 Billion a Day of Ship Traffic. *Bloomberg*.

² Goodman, P. (2021, March 26). In Suez Canal, Stuck Ship Is a Warning About Excessive Globalization. *The New York Times*.

³ Safi, M. (2021, March 28). Stranding of *Ever Given* in Suez Canal was foreseen by many. *The Guardian*.

⁴ Leggett, T. (2021, June 10). UK economy lags behind other countries in Covid recovery. *BBC News*.

⁵ International Energy Agency. (2021). *Global Energy Review 2021*. Paris.

competitor's policy preferences. Inflicting punishments in a tit-for-tat struggle for economic dominance usually produces commensurate levels of blowback. Buyers beware.

Technological advancements in communications and transportation have made significant strides in overcoming the tyranny of distance. Multimodal distribution networks which synchronize land, sea, and air corridors provide dynamic solutions needed to reduce operational costs and improve the speed and efficiency of global trade. As the *Ever Given* obstruction highlighted, the investment in critical port and canal infrastructure capable of supporting a new generation of large containers ships is needed to provide cost-effective alternatives to maritime chokepoints and reduce operational risk. In times of peace, maritime chokepoints are subject to structural and geopolitical risks—whether human error, poor infrastructure, or inclement weather. In times of instability, the disruption of a major maritime chokepoint through sabotage or closure would significantly impede the power projection of major naval forces to the region with dire consequences for the global economy. Bound by the dynamic factors of time and distance, energy security will become an increasingly important feature of the geopolitical structure in the coming decades.

On September 15, 2020, the United Arab Emirates and Bahrain normalised bilateral relations with Israel in a Rose Garden ceremony on the White House lawn. Facilitated in part by the Trump Administration, the Abraham Accords Peace Agreement were promoted as an opportunity to “pursue a vision of peace, security, and prosperity in the Middle East and around the world.”⁶ A new era defined by mutual understanding and cooperation—not conflict—would underwrite policy actions in myriad spheres of mutual interests from finance and investment to healthcare and education. The Abraham Accords were welcomed by some Arab and most Western European states as an opportunity to promote peace

and stability in the region. Normalisation agreements with Sudan and Morocco followed later that year.

In October 2020, the Israeli state-owned Eilat-Ashkelon Pipeline Company (EAPC) announced a new energy collaboration between Israel and the United Arab Emirates for the transport of crude oil through the Israeli-owned Eliat-Ashkelon pipeline⁷. Signed in Abu Dhabi with the MED-RED Land Bridge Consortium and witnessed by former U.S. Treasury Secretary Steve Mnuchin. The plan would facilitate the flow of UAE crude oil from the Israeli port of

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Eilat to Ashkelon (254km) with assured access to the eastern Mediterranean Sea. Further pipelines provide access to Haifa refineries for distillates. Despite EAPC pronouncements that the agreement would ensure as a shorter and more cost-effective solution to maintain energy security from the Middle East to Europe—geopolitical, economic, and environmental roadblocks remain.

In June 2017, Egyptian Parliament

approved the transfer of the Tiran Islands to Saudi Arabia in support of planning efforts to extend Egypt's Sumed pipeline to Yanbu, KSA (320km) through Sharm el-Sheik⁸. If constructed, the pipeline would connect gulf oil suppliers to European markets via Egyptian ports facilities at Sidi Kerir, Alexandria. The Sumed pipeline is owned by Arab Petroleum Pipeline Company/Sumed Company, a joint venture of the EGPC with a 50% Egyptian controlling stake. Saudi Arabia Aramco, UAE IPIC, Qatar QGPC, and three Kuwaiti companies round out the remaining stakeholders in the joint venture. In 2019, Egyptian Sumed and KSA Aramco signed a deal, which provided gas oil storage capacity in Sidi Kerir for re-export to European markets⁹. As a result of decreased European demand and the Covid-19 pandemic, the Sumed pipeline flows dropped to four-year lows as gulf energy exports dried up in August 2020. As of June 2021, the future of mega project remains uncertain without additional financing and foreign direct investment.

The Egyptian transfer of the Tiran Islands to Saudi Arabia provided space for complimentary solutions to the overreliance on the Suez Canal. Long-rumored plans for the development of port facilities at Eilat on the Red Sea have regained momentum due to improving relations between Israel and its neighbors. Former Israeli Prime Minister Benjamin Netanyahu identified the development of Eilat into a “Southern Gateway” as one of five major infrastructure projects to jump start Israel's post-pandemic recovery¹⁰. At present, Eilat's port infrastructure is ill-equipped to support major maritime traffic—including the inability to load or discharge containerised cargo. Significant capital investments would be required to support upgrades to the existing infrastructure including the Ramon International Airport, the Eilat logistics terminal, and its deep water port facilities. Further plans call for a highspeed railway system to connect Eliat with Ashdod serving as a land bridge for commercial freight to reduce expensive overland costs.

⁶ Bahrain, United Arab Emirates, Israel. (2020). *Abraham Accords Declaration*. Washington D.C.: U.S. Department of State.

⁷ Rabinovitch, A., & Cohen, T. (2020, October 20). Israeli pipeline company signs deal to bring UAE oil to Europe. *Reuters*.

⁸ Nashat Hamdy, M. M. (2017, June 14). Egypt's parliament approves Red Sea islands transfer to Saudi Arabia. *Reuters*.

⁹ Reuters staff. (2019, February 12). Saudi Aramco, Egypt's SUMED sign oil storage deals: ministry. *Reuters*.

¹⁰ Layter, Y. (2013). *Israel's Southern Gateway*. Israel Ports Development and Assets Company, LTD.

these challenges, international interest in the mega project remains. The Trump organisation also expressed interest in Eilat construction projects—despite prior attempts to build a casino in the resort town during the 1990s¹¹. In March 2021, the UAE announced that it would provide more than \$10 billion in funding through its UAE strategic investment fund to support the mega project¹². The construction of canals and ports is a top priority within UAE infrastructure agenda to improve its access to foreign energy markets. Seizing on its formal relations with UAE, the EAPC has discussed plans to extend the Eliat-Ashkelon pipeline 700 kilometer southeast to the Yanbu oil refineries in Saudi Arabia, where it would meet with the East West NGL Crude Oil Pipeline¹³. If approved, the resulting Red-Med land bridge could provide a secure and cost-efficient means of overland transportation from the Arabian Gulf to the Mediterranean Sea.

It remains universally true that all conflicts—short of war—are essentially bargaining situations. Traditionally, Egypt has viewed infrastructure projects that would impact the Suez Canal profitability as damaging to its core national interests. Yet, Israel's economy is almost entirely dependent on sea trade and ports at

Haifa, Ashdod, and Eliat. More than 25% of Israel's trade is with Southeast Asia and the Far East and moves through the Suez Canal. Suffice it to say, cancelling the UAE-Israeli pipeline deal would create a diplomatic crisis. The Red-Med Land Bridge cannot compete with the Suez Canal due to its geographical, economic, and geopolitical constraints.

However, upgrades to existing port infrastructure at Eilat can provide a complimentary solution to reduce congestion in the Suez Canal and alleviate the need for major Egyptian expenditures on a proposed canal expansion¹⁴. Moreover, access to alternate overland distribution networks would provide safe and cost-effective options for global energy trade in future Black Swan events. The UAE, Saudi Arabia, and Israel stand to gain significant economic advantages by collaborating on energy transportation alternatives to strategic maritime chokepoints. Good faith efforts to ensure mutual benefits to Egypt through collaboration in Israel's burgeoning gas reserves may provide the impetus for compromise.

In 2018, Egypt signed a bilateral agreement with Israel to purchase gas from Israel's Leviathan and Tamar fields in the eastern Mediterranean Sea. There

exists a lucrative opportunity for Israel to achieve self-sufficiency and become a net-exporter of natural gas. Yet, with saturated European markets and a fractious EastMed pipeline project uncertain of completion, Israel must seek opportunities to capture a market share in Southeast Asia and Far East markets.

In 2020, Israel in coordination with Egypt, Greece, Cyprus, Jordan, France, Greece, Italy, and the Palestinian Authority supported the formation of the Eastern Mediterranean Gas Forum (EMGF) in Cairo to serve as a regional integrator for new offshore discoveries in the Levant region. Through the EMGF, Israel can support Egypt's ambitions to serve as regional energy hub while ensuring diffuse benefits across members of the bloc¹⁵. The upshot is that the UAE-Israel diplomatic reset might have triggered a paradigm shift in the MENA energy sector. Now that is a black swan event that was *completely unforeseeable*.

¹¹ Ahren, R. (2017, May 10). The curious case of Donald Trump's 1989 (non-)visit to Israel. *The Times of Israel*.

¹² Zaken, D. (2021, March 14). UAE \$10b Israel fund will stress ports and railways. *Globes*.

¹³ The New Arab Staff. (2020, September 17). Israel to propose Saudi-Israel oil pipeline. *Al-Araby*.

¹⁴ AP News staff. (2021, May 11). Egypt plans Suez Canal expansion after vessel was grounded. *AP News*.

¹⁵ Reuters staff. (2020, January 20). Fact box: Egypt's push to be east Mediterranean gas hub. *Reuters*.

CULTURE

« Liban, le vert »

Last May, the art gallery Terrain Vagh, located in Paris' Quartier Latin, held the exhibition "Beyrouth" in tribute to the city that had suffered from a devastating explosion on August 4, 2020.

The Saudi Amal Alzahrani was one of the exposing artists with her painting "Liban, le vert".

"I have painted the blast damage while using a woman curled up on a cedar to symbolise Lebanon. The mother land protects its people thanks to a cedar that remains green despite of it all. The tip of her hair becomes green again, sign of hope as I have always been impressed by the strength of the people of Lebanon, always capable of bouncing back whatever the ordeal.

Lebanese are rebellious and conscious, although their love of life prevents them from letting go to unnecessary negativity.

Yet, there is a dark side in the painting and an absence of horizon since I feel uncertain about the country's present situation and hence, I chose not to paint feet to this motherland because I struggle to see where Lebanon is going.

Now, the message of hope is strong through the well protected green cedar and green hair of the woman.

I have called the painting "Liban, le vert" ("Lebanon, the green") in tribute to the great Lebanese singer Fairuz that sang Lebanon many times especially through this song."



Social medias: [Twitter](#) [Instagram](#)

«Liban, le vert», Amal Alzahrani

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