

Food for thought

Good nutrition can drive economic growth rather than riding on the coat-tails of economic growth because children who are well-nourished are much less likely to be sick, more likely to go to school, less likely to drop-out, and more likely to learn better and develop to their full potential.

MICHAL RUTKOWSKI

EVERY year over 20 million children in the developing world die from malnutrition -- the single biggest contributor to child mortality. Today, the number of undernourished people in the world is close to one billion, and nowhere is this problem bigger than in South Asia. Astonishingly, 45% of South Asian children are undernourished. Both underweight and stunting (short height for age) rates in the region are much higher than that of anywhere else, including Sub-Saharan Africa.

Nearly a decade of robust economic growth has just not translated into improved nutritional status for children in South Asia, and sadly no country in the region is on track to meet the nutrition Millennium Development target of halving the prevalence of underweight children by 2015.

Although Bangladesh made significant progress in reducing under-nutrition in the 1990s, this progress has slowed noticeably since 2000. The most alarming trend in the country is the level of acute under-nutrition, or wasting, which increased by

more than 50% from 2000 to 2007.

Clearly, these shocking and puzzling statistics demand stepping up of both analytical work and experimentation with new approaches. Therefore, in an attempt to raise awareness and arm people and policymakers with information that can help transform nutrition programs and policies, the World Bank and partners, including Unicef, the Bill and Melinda Gates Foundation, World Food Programme, Global Alliance for Improved Nutrition, and PepsiCo, are hosting a South Asian Development Marketplace (DM) competition that will support innovative approaches to addressing the problem of child under-nutrition.

The impact of poor nutrition can be devastating and is largely irreversible. A child who was undernourished during its first two years of life is less likely to complete school and will earn on average 10-17% less than one who was well-nourished. The economic costs, too, are substantial. A World Bank report estimates that malnutrition is costing poor countries up to 3% of their yearly GDP.

Leaving aside those statistics, the endemic perseverance of under-nutrition

in the region is simply unacceptable. It robs a child of a chance to succeed and live a healthy, productive life. And it can be prevented -- with the right actions and the right commitment.

Contrary to popular belief, putting more food into the mouths of children cannot overcome under-nutrition. In fact, many children living in households with plenty to eat are still underweight or stunted because of misguided infant and young child feeding and care practices, poor access to health services, and poor sanitation.

Furthermore, aggregate national nutrition indicators mask vast disparities between rich and poor and people living in urban and rural areas. For example, in Bangladesh, stunting is most common in the poorest households where more than 50% of children are too short for their age, compared to only 26% in the wealthiest households. Stunting is also more prevalent in rural areas (45%) than in urban areas (36%), and among children of uneducated mothers.

So what can be done to improve the nutritional status of South Asian children? First, it is important to recognise that under-nutrition's most damaging effects occurs from just before a woman becomes pregnant to the first two years of the child's life. There is broad agreement that the damage to physical growth, brain development, and human capital formation occurring during this period is extensive and to a large extent irreversible.

Hence nutrition interventions need to focus on this narrow window of

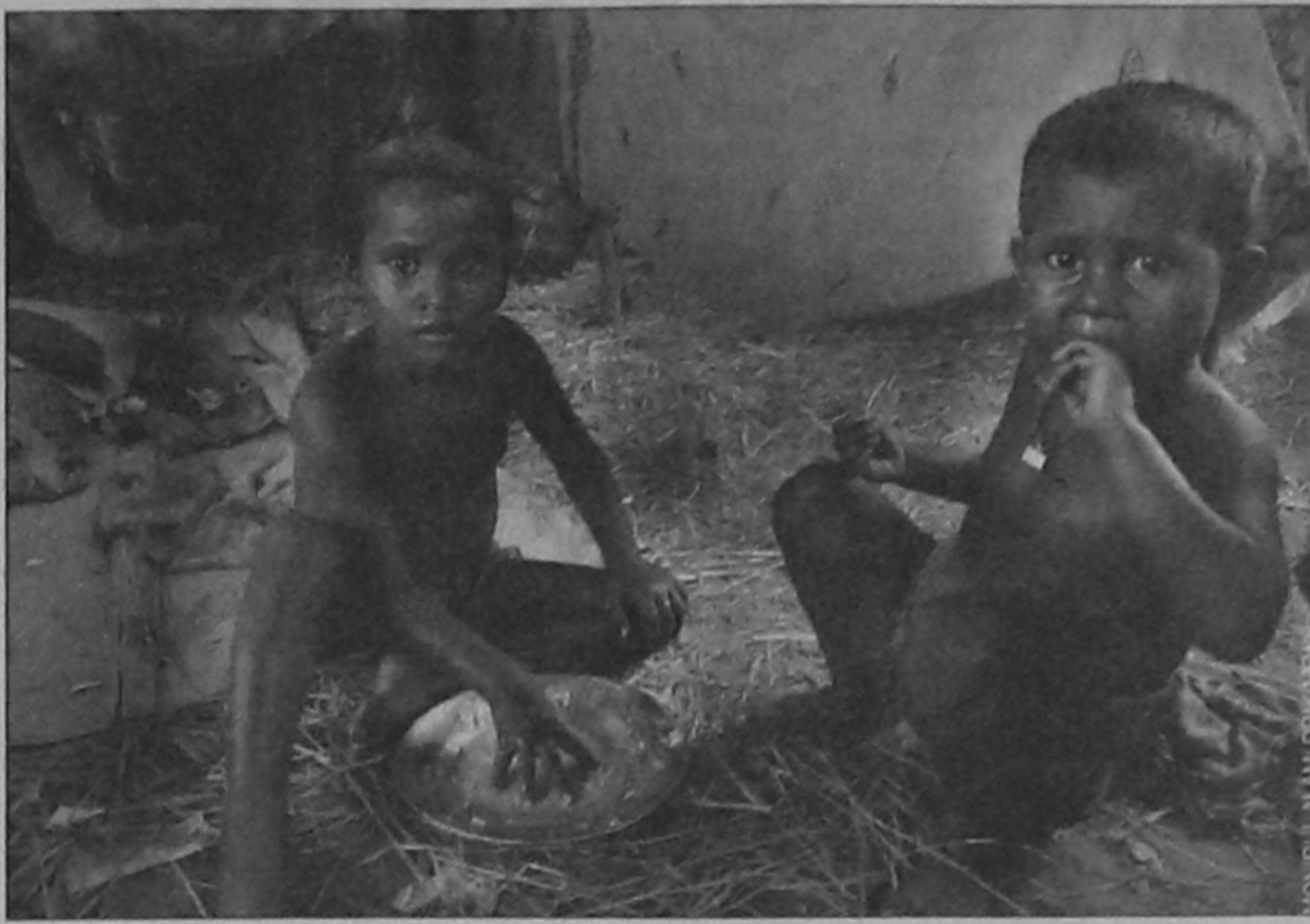
opportunity.

Pregnant women also need more attention, especially in South Asia. Around one-third of all children born in South Asia are of low birth weight, compared to 15% in Sub-Saharan Africa. Low birth weight indicates that a child was undernourished in the womb, or that the mother was undernourished during her childhood or pregnancy. This is reflected by statistics showing that over a third of adult women in Bangladesh, India and Pakistan are underweight, and the prevalence of iron deficiency anemia ranges between 55-81% across the region.

At the South Asia Development Marketplace, 60 civil society and grassroots organisations from Afghanistan, Bangladesh, India, Nepal, Pakistan and Sri Lanka will display their ideas in Dhaka on August 5 on how to improve nutrition to pregnant women, and to infants and young children during their first two years of life.

The goal is to encourage, showcase and learn from innovative approaches that can be incorporated into national nutrition strategic planning and programming. We expect this event to highlight the need to empower women within their families and communities in order to address the socio-cultural determinants of under-nutrition, increase access to and use of micronutrient-rich foods or supplements, and change household behaviours to address child under-nutrition.

We hope it will help reposition nutrition to the centre of development so that a wide



They are deprived of food, the nation of a resource.

range of economic, social, and environmental improvements that depend on nutrition and nutrition depends upon can be realised.

After all, there is an urgent need to build a strong, healthy and well-nourished population that can make the most of education and employment opportunities available in today's rapidly globalising world.

We have seen that developing countries that invest in better nutrition for their children get high returns on their spending. Good nutrition can drive economic growth rather than riding on the coat-tails

of economic growth because children who are well-nourished are much less likely to be sick, more likely to go to school, less likely to drop-out, and more likely to learn better and develop to their full potential.

Well-nourished children represent strong human capital and, in these times of crises, it becomes even more critical to build this human capital to protect countries against future shocks. The World Bank is committed to helping countries to build their human capital -- the time to act is now.

Michal Rutkowski is World Bank Director for Human Development in the South Asia Region.

Are submarines Neptune's nightmare?

Times have since changed. Bereft of divine attributes, those who wish to exercise such control, or come even close to that, now need far more sophisticated weaponry. Nations have replaced those gods and their yearning for command over waters.

IFTEKHAR AHMED CHOWDHURY

THE ancient Greek deity Poseidon, or his Roman analogue, Neptune, once ruled the waves with a mere trident as their only weapon. True, being gods, they were able to put it to manifold uses, including wreaking disasters like horrific earthquakes to punish those who incurred their wrath.

Times have since changed. Bereft of divine attributes, those who wish to exercise such control, or come even close to that, now need far more sophisticated weaponry. Nations have replaced those gods and their yearning for command over waters. For a while in history such interests and initiatives lay with the countries of the western hemisphere. That era, too, is bygone. Asia is now coming to the fore.

Its seas will soon be awash with numerous war-waging platforms operating beneath. These will be in the form of the latest versions of submarines. As Asia grows in economic and political significance, it does so militarily also. Prosperity creates interests that need protecting. It includes fruits of development. What better way is there to do this is there than procuring the latest weaponry?

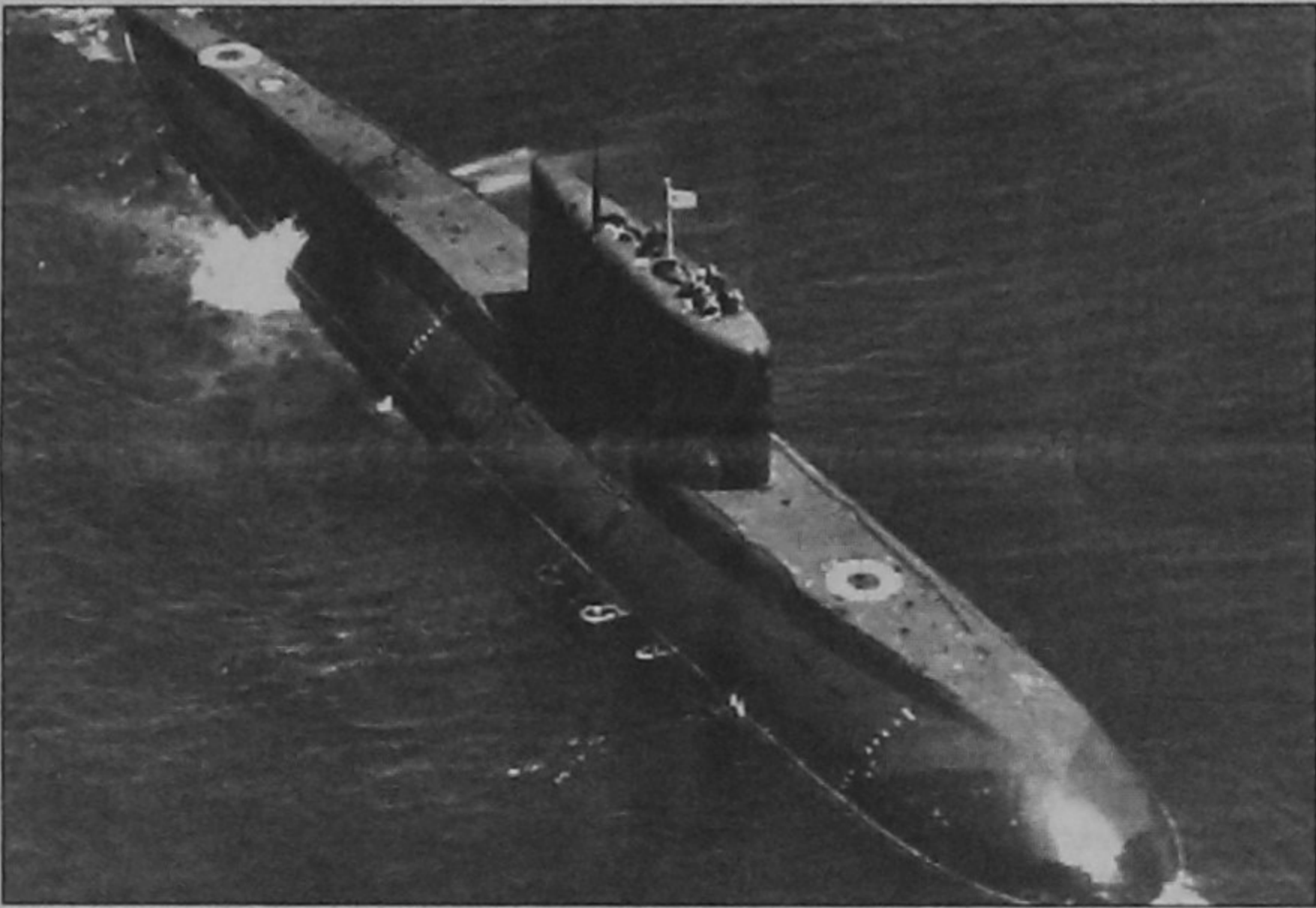
This is where submarines fit in. They run quiet, deep, and travel far. Their sonar

signals may do marine biology damage, and even harm the fish, flora and fauna. No matter. To these countries they buttress their sense of security. That is what they tend to accord priority. So the procurements robustly continue.

Unsurprisingly, China is in the lead. It has growing assets to protect. This year a defence budget of \$70 billion, the second largest in the world after that of the United States, was announced. A lion's (or, perhaps more appropriately, a whale's) share is to go to the navy, rendering it the fastest growing arm of the Chinese military. It is not hard to fathom why.

The Chinese strategy is expected to shift from "active defence" to "pre-emptive response" by 2020. That implies the capability to fight massive wars in blue water, providing effective support for land operations. This will require many submarines. Already China has them in numbers greater than any other Asian country. These include 10 nuclear-powered vessels, and nearly 60 diesel-electric ones. It is reportedly building a fleet of five nuclear-powered ballistic missile-carrying subs, each capable of launching 12 such missiles. A new submarine base is said to be under construction in Hainan in the South China Sea.

It is an easy guess which country is next:



Now Man rules the depths.

India. India's submarine capability is being rapidly developed, with eyes on China, and glances towards Pakistan. The plan is to develop the ability called "triad" in strategic parlance. This is the capacity to launch nuclear missiles from the air as well as land, which India already has, and now, sea.

To reach that end an Advanced Technology Vessel (ATV) program was created. Under it, India commissioned this July its first indigenously built, though with considerable Russian assistance, nuclear submarine, also capable of launching 12 missiles. Delhi also gave it the fearsome name of Arihant, meaning "destroyer of enemies."

This is unlikely to have a calming effect

on Beijing or Islamabad. Six more Scorpene-class submarines are also being built under license. India's blue-water navy is designed to reflect its distant interests, in say the Malacca Straits, where it sees itself as not only a "user state" but also a "funnel state."

Pakistan is struggling to stay relevant. Also, to keeping its powder dry on the ocean floor. Its current fleet comprises French-built platforms; four aging Daphne-class units, two Agosta-70 boats, and two modern Agosta-90 B subs, the second of the latter is under construction and fitted with an air-independent propulsion system that will allow it to remain submerged longer, though nowhere near the capability of a nuclear submarine.

There are also four Italian-designed midget submarines being built.

Earlier this year Admiral Noman Bashir said that "sub-surface defence capabilities" would be strengthened. He was perhaps referring to three Type-214 submarines being ordered from Germany. Pakistan badly requires the capability of having some of its subs carry a part of its nuclear arsenal. This is necessary for better concealment and more effective deterrence. But it is likely to remain an unfulfilled aspiration for the near future.

For Bangladesh, access to the oceans via the Bay of Bengal is of utmost strategic importance. The spat with Yangon in November 2008 over a rig placed by Myanmar for exploration purposes in territorial waters claimed by Bangladesh was a "wake-up call" for Dhaka. The media has reported the Bangladesh navy as having an ambitious ten-year plan to upgrade itself into a "three-dimensional" force, which, understandably, would include the purchase of a submarine by 2019, a project, which is said to have "approval in principle" of the government. This is only logical. The Myanmar navy has grown enormously since 1988, mostly with Chinese help. It now seeks blue water capability. Addition of submarines is, therefore, only a matter of time.

Other South-East Asians are not lagging behind. The largest of them all, Indonesia, is also vying for the largest fleet, planning to buy 12 before 2024, strengthening its current insufficient number of two German made Cakra-class vessels. Singapore was very much in the news lately for its procurement of two Archer-class submarines from Sweden, upgraded, refurbished, modernised, and

tropicalised. These will enable it to retire some old Challenger-class boats.

Malaysia has also acquired its first Scorpene submarine from France, with a second due later this year. Besides, South Korea is constructing under license from Germany three Type-214 platforms with options on six more. Somewhat wary, Australia brought out a "Defence White Paper" recently, looking to double the number of its submarines from 6 to 12 by 2030.

So, in a few decades, many steel-fish with missile-teeth will be prowling the Asian waters. Analysts like Raja Mohan see this phenomenon as an Asian penchant for classical notions of power as symbolised by earlier naval strategists like Admiral Mahan, just when the West is gripped with post-modern fascination for norms and institutions!

However, Asian submarines need not become Neptune's nightmare. There are at least three main reasons why not. First, because a sub-launched missile is less accurate, it is not to be used as a "first strike" weapon but only for retaliatory actions, which renders it stabilising. Second, the procurements do not alter existing balance of power. And third, coordinated measures can enhance security, such as vis-à-vis rogue non-state actors. What can be useful is a "Big Tent" conference of all stake-holders to exchange information, and calibrate actions. All this will put to test Asia's wisdom and maturity. It is yet another challenge that Asia will need to work together to overcome.

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Climate-change calculus

The test of whether the nations of the world care enough to act will come in December, when 192 countries meet in Copenhagen to hammer out a climate treaty. Carlson vows that IPY will finish its Arctic assessment in time for the meeting, and one conclusion is already clear. "A consensus has developed during IPY that the Greenland ice sheet will disappear," he says.

SHARON BEGLEY

AMONG the phrases you really, really do not want to hear from climate scientists are: "that really shocked us," "we had no idea how bad it was," and "reality is well ahead of the climate models." Yet in speaking to researchers who focus on the Arctic, you hear comments like these so regularly they begin to sound like the thumping refrain from Jaws: annoying harbingers of something that you really wish would go away.

Let me deconstruct the phrases above. The "shock" came when the International Polar Year, a global consortium studying the Arctic, froze a small vessel into the sea ice off eastern Siberia in September 2006.

Norwegian explorer Fridtjof Nansen had done the same thing a century before, and his Fram, carried by the drifting ice,

emerged off eastern Greenland 34 months later. IPY scientists thought their Tara would take 24 to 36 months. But it reached Greenland in just 14 months, stark evidence that the sea ice found a more open, ice-free, and thus faster path westward thanks to Arctic melting.

The loss of Arctic sea ice "is well ahead of" what the Intergovernmental Panel on Climate Change forecast, largely because emissions of carbon dioxide have topped what the panel -- which foolishly expected nations to care enough about global warming to do something about it -- projected. "The models just aren't keeping up" with the reality of CO2 emissions, says the IPY's David Carlson.

Although policymakers hoped climate models would prove to be alarmist, the opposite is true, particularly in the Arctic.

The IPCC may also have been too cautious on Greenland, assuming that the melting of its glaciers would contribute little to sea-level rise. Some studies found that Greenland's glacial streams were surging and surface ice was morphing into liquid lakes, but others made a strong case that those surges and melts were aberrations, not long-term trends.

It seemed to be a standoff. More reliable data, however, such as satellite measurements of Greenland's mass, show that it is losing about 52 cubic miles per year and that the melting is accelerating. So while the IPCC projected that sea level would rise 16 inches this century, "now a more likely figure is one meter [39 inches] at the least," says Carlson. "Chest high instead of knee high, with half to two thirds of that due to Greenland." Hence the "no idea how bad it was."

The frozen north had another surprise in store. Scientists have long known that permafrost, if it melted, would release carbon, exacerbating global warming, which would melt more permafrost, which would add more to global warming, on and on in a feedback loop.

But estimates of how much carbon is locked into Arctic permafrost were, it turns out, woefully off. "It's about three times as much as was thought, about 1.6 trillion metric tons, which has surprised a lot of people," says Edward Schuur of the

University of Florida. "It means the potential for positive feedbacks is greatly increased." That 1.6 trillion tons is about twice the amount now in the atmosphere.

And Schuur's measurements of how quickly CO2 can come out of permafrost, reported in May, were also a surprise: 1 billion to 2 billion tons per year. Cars and light trucks in US emit about 300 million tons per year.

In an insightful observation in *The Guardian* this month, Jim Watson of the University of Sussex wrote, "A new breed of climate sceptic is becoming more common": someone who doubts not the science but the policy response. Given the pathetic (non)action on global warming at the G8 summit, and the fact that the energy/climate bill passed by the House of Representatives is so full of holes and escape hatches that it has barely a prayer of averting dangerous climate change, skepticism that the world will get its act together seems appropriate.

For instance, the G8, led by Europe, has vowed to take steps to keep global warming below 2 degrees Celsius by reducing CO2 emissions. We're now at 0.8 degree. But the amount of CO2 in the atmosphere is already enough to raise the mercury 2 degrees. The only reason it hasn't is that the atmosphere is full of crap (dust and aerosols that contribute to asthma, emphysema, and other diseases) that acts

as a global coolant.

As that pollution is reduced for health reasons, we're going to blast right through 2 degrees, which is enough to exacerbate droughts and storms, wreak havoc on agriculture, and produce a planet warmer than it's been in millions of years. The 2-degree promise is a mirage.

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December, when 192 countries meet in Copenhagen to hammer out a climate treaty. Carlson vows that IPY will finish its Arctic assessment in time for the meeting, and one conclusion is already clear. "A consensus has developed during IPY that the Greenland ice sheet will disappear," he says. Cue the Jaws music.

Begley is Newsweek's Science Editor. ©Newsweek International. All rights reserved. Reprinted by arrangement.



Melting glaciers, threatened world.