

(goals of ending viral spread by 2000 and 2005 passed the programme by, and the same is likely to be true of 2012), the world has come too close to vanquishing this ancient disease to fail to see the task through.

If aggressive vaccination campaigns stop, the virus is likely to rebound more viciously than ever in Nigeria, Afghanistan and Pakistan — the three countries never to end its spread — and in the countries they border. China, which was declared polio-free in 2000, is now battling an outbreak in its northwestern Xinjiang province, imported from neighbouring Pakistan. Bruce Aylward, an assistant director-general at the World Health Organization who is leading the eradication campaign, warns against the “false premise” that polio can be safely contained as a rare threat in a few endemic countries.

The world's wealthier countries must meet their financial commitments to polio eradication, even in these lean economic times, and countries that have not yet chipped in ought to. Nigeria, Pakistan and Afghanistan have much more pressing public-health concerns than polio, such as high infant mortality. They are battling the virus for the world's sake and not their own.

Western countries, fast-developing nations and oil-rich Middle Eastern nations such as Saudi Arabia could all do more to help end polio. Rotary International, the Bill & Melinda Gates Foundation and other philanthropic donors need to keep up their already substantial support.

If donors need a reason to think their money will be well spent, they should look no further than India, which has not reported a case of poliomyelitis since January 2011. The country of 1.2 billion was considered one of the hardest in which to eliminate the disease.

India's success may not offer specific lessons to Nigeria, Pakistan or Afghanistan. Each country — and, indeed, each region where polio still circulates — has its own set of challenges that range from religion-inspired vaccine refusal to domestic terrorism to local government corruption.

An emergency action plan announced by the polio-eradication initiative in Geneva last week is a good start (see page 563). It is right to emphasize local solutions and accountability at all levels. But health officials need to remain flexible if the current plan fails, particularly in Nigeria, which is facing its high-transmission season and is battling outbreaks of three different viral serotypes.

Officials involved in the eradication effort are considering introducing injected vaccines, in conjunction with the oral vaccines in use in endemic countries. Injected vaccines could boost immunity in children who do not receive the multiple doses of oral vaccine needed to ensure protection. Such a move could also accelerate the transition from a live oral vaccine, which carries the rare side effect of triggering the disease it is supposed to fight, to inactivated injected vaccines.

It is tempting to think even further ahead, beyond polio eradication. The World Health Assembly, for example, is already considering a measles-eradication initiative. It should proceed cautiously. The polio initiative, which emphasized vaccination campaigns, may have come at the expense of routine child immunization programmes in some countries.

Measles could offer a distraction from this vital work. Some countries would be unwise to focus on this goal before achieving a high level of routine immunization against diseases such as diphtheria and tetanus.

While the polio-eradication effort was setting out its proposals last week, the World Health Assembly quietly endorsed a separate plan, which sets routine vaccination coverage targets of 90%, and aims for steep reductions in child mortality from vaccine-preventable diseases by 2020. If these goals can be achieved, there may be less political backslapping than for vanquishing polio, but the people of the world should be just as grateful. ■

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Split decision

The two-location solution for siting the Square Kilometre Array should not surprise us.

Sharing major international events is the fashion this year. Next week, the finals of the UEFA European Football Championship will kick off in two host countries: Poland and Ukraine. Meanwhile, scientists are digesting another split decision, on where to build the world's most powerful radio telescope.

The battle to host the Square Kilometre Array (SKA) was between South Africa and a joint Australian/New Zealand bid. Both sides fervently wanted the title, and rhetoric ran high in the weeks before the negotiation. But like many highly anticipated matches, it fell short and ended as a draw. Under the deal, half of the SKA will end up in Australia and the other half in South Africa (see page 555).

Despite some weak justifications from the political leadership of the project, there is no compelling scientific reason to build the SKA in two places. Indeed, the law of parsimony should lead any scientist to conclude that putting the SKA in a single location would be much better than putting it in two locations six time zones apart.

Scientists aren't protesting too much, yet. They understand that large-scale experiments follow rules other than those of reason. Take, for example, ITER, the massive fusion experiment now under construction near Cadarache in the south of France. In a logical world, that complex machine would be designed, commissioned and assembled by a single directorate near the site, but instead it is being run through a baffling system of contracting and subcontracting. And the world's most powerful particle accelerator, the Large Hadron Collider (LHC) at CERN near Geneva, has expensive data-analysis centres all over the world.

This added complexity reflects the human side to these large projects. In the case of ITER, the procurement system means that governments can ensure there is work for domestic labs and companies. Distributed computing at the LHC lets researchers who have contributed to its construction participate from their home countries.

But adding another layer of complication to an already sophisticated project adds risk and cost. ITER's costs have doubled, largely due to its inefficient structure, and procurement is running behind schedule. The International Space Station (ISS), is currently looking at ways to make cuts — perhaps by trimming its four, redundant operations centres.

For the SKA, administering two remote locations will be more difficult than one, and the extra roads, networking, computing and power requirements will surely raise the price. The split site might also threaten the cohesion of the project: it now looks much more like two telescopes than one.

But splitting the site does have potential benefits. For one thing, the redundancy created by international collaboration can come in handy. The ISS, for example, continues to be serviced by a slew of vehicles from its different partners, even though the US space shuttle no longer flies there. There is also a perverse financial advantage — multiple partners are less likely to cancel an over-budget project than is a single government. But the greatest benefit is human: a more complex project draws in more people from more places and gives them an opportunity to participate.

It is easy to view fights over projects such as the SKA as sport. Participants instinctively seek winners and losers, and want to walk away with a trophy. But an international project is far more complicated. In the case of the SKA, both bidders can walk away with their egos intact, and the project has held together. However unsatisfying the result might seem, it was probably the best way to see that the telescope got built. It is, as the football pundits will say next week, a game of two halves. ■

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