

# Tipaimukh Dam: Blessing or peril for Bangladesh?

What is the way forward for Bangladesh? Any project in an international river should be undertaken as a joint venture based on free flow of information from both parties involved. Bangladesh should insist on an integrated water resources management plan that keeps the interests of all stakeholders in the basin area.

MD. KHALEQUZZAMAN

RECENTLY, there has been much discussion in the electronic and print media about the potential impacts of the Tipaimukh Dam on Bangladesh. The intensity of the buzz has heightened following the remarks made by the Indian high commissioner on June 21, and subsequent comments made by the water resources minister of Bangladesh. In both cases, they have assured the Bangladeshi people that not only the proposed dam will cause no harm to Bangladesh, it actually may even benefit Bangladesh.

In a live talk show organised by Voice of America (VOA), a non-resident Bangladeshi engineer, Dr. Khondakar Abu Sufian, suggested that the Tipaimukh Dam will be a blessing for Bangladesh, because it will have the potential to reduce flooding in Bangladesh by 30%, or the river-levels in Sylhet region will be reduced by 1.5 metres during rainy season. Apparently, this calculation about reduction of flooding by Tipaimukh Dam is based on a study done in 1992-94 under Flood Action Plan (FAP-6).

The opponents of the dam claim that this is a gross violation of international norms and the existing Ganges Treaty between India and Bangladesh. They also raised concerns about unilateral control of an international river by India, and think that the dam will reduce the flow in Surma-Kushiara-Meghna rivers during dry season and will increase during rainy season.

This author attempts to analyse the validity of these opposing claims by

applying some basic principles of hydrology that are commonly used in such situations.

First, let's look at the promise of reduction of flow during rainy season. In order for anyone to be able to make this prediction or judgment, one will need to have access to the water release schedule by India at Tipaimukh Dam, which is not available to anyone in Bangladesh.

One of the authors of the FAP-6 study, Dr. Ainun Nishat, pointed out in the VOA program that the Bangladeshi authorities carried out that study based on many assumptions, which may or may not be true.

In addition, the detailed project report for the Tipaimukh Dam was not prepared by India at that time or was not available to anyone in Bangladesh. The correlation between a river-level and the amount of flow in that river is called the rating curve of that river, which is prepared based on many years of flow-data and by recording corresponding river-levels (also called the stage of a river) during those flow events.

After the dam is built, only India will decide how much water they will release, and when they will release it. Therefore, without having that information about the amount of water to be released at Tipaimukh Dam, no one can predict how the river stage will change in a downstream location in Bangladesh.

So, the prediction that river stage will decline by 1.5 metres during flooding is not substantiated. The proponent of this flow reduction concept, Dr. Sufian, contradicted himself later in the VOA program by saying that "we are in complete

darkness about the Tipaimukh project." Then, the question remains, what is the basis for the conclusion that Tipaimukh Dam will reduce flooding and will increase flow during dry season? Does anyone in Bangladesh have the information about the amount of water that India plans on releasing from Tipaimukh? The answer is a resounding no.

If even India promises that, they will release certain amount of water during certain periods, what guarantee is there that they will actually stick to their promise? Will Bangladesh have any written treaty or agreement on the amount released for certain time periods? If the Ganges Treaty is any indication of the reality, can Bangladesh rely on India's promise? Is the precedence there?

The past records do not support this assumption. In a recent interview with a newspaper, one of the members of the Joint River Commission, Mr. Taubidul Anwar, revealed that Bangladesh did not receive her fair share in 9 out of the last 12 years since the treaty was signed.

The Tipaimukh Dam will have the maximum capacity to hold 15 billion cubic metres (BCM) of water, which, as per the Central Water Commission of India, accounts for about 30% of the total flow of the Barak River. This means that India will have unilateral control over 30% of the flow in an international river. In itself, this cannot be acceptable to a downstream country (Bangladesh).

To produce electricity, India will have to release water from the dam from its highest level at 178m (when 15 BCM will be captured behind the dam) to 136m. A rough calculation indicates that, the amount of water that will be released equals to about 8 BCM. In other words, about 7 BCM of water will always be kept behind the dam to maintain enough pressure-head needed to generate electricity from the dam. This 7 BCM will be the dead storage (i.e. kept behind the dam permanently), which is equivalent to about 9,000 cusec.

In other words, if that 7 BCM was released evenly throughout the year, then it would equal to about 9,000 cusec of



A football ground created by the Farakka barrage. What will the Tipaimukh Dam do?

additional flow in the Barak River, which will eventually reach the Surma (60%) and Kushiara (40%) in the amount of 5,400 cusec and 3,600 cusec, respectively.

So, it is possible that during ordinary rainy season (unless there is a major rain event, in which case they will open all gates to secure the dam) flow in the Surma and Kushiara will be reduced by 5,400 and 3,600 cusec, respectively.

But, the same amount of reduction in dry season will have the potential to dry off these two rivers. Therefore, in view of this author the flow in summer will not increase in these rivers as suggested by Dr. Sufian. At least, Bangladesh does not have necessary data to make this judgment.

It should be noted that, the Tipaimukh Dam is being built as per Shukla Commission's recommendations. The same commission also recommended

building of a diversion barrage downstream of the dam at Fulertal in Assam. For the Tipaimukh project to be economically viable, most likely, India will build the diversion project at Fulertal or at another suitable location.

The water resources minister of Bangladesh recently said that the Tipaimukh Dam can be beneficial for Bangladesh. If India and Bangladesh designed the project jointly, keeping Bangladesh's needs and demands in the plan, then probably the project could bring limited benefits to Bangladesh.

Since this is not the case, and since India did not even inform Bangladesh about the project, there is no reason to believe that India is designing this project to help Bangladesh out. This is a naive statement on the minister's part.

What is the way forward for Bangladesh? In view of this author, any

project in an international river should be undertaken as a joint venture based on free flow of information from both parties involved. Bangladesh should insist on an integrated water resources management plan that keeps the interests of all stakeholders in the basin area.

We must also realise that a river-flow does not just carry water, it also carries sediments, which are essential for the growth of floodplain and delta plain in the face of rising sea level. Without the natural flow of river-water and sediments, the very survival of Bangladesh will be jeopardised in the future. All projects on rivers should incorporate a guarantee clause to ensure normal functioning of riverine eco-systems.

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## Bangladesh a no-show again

Over 1,200 delegates representing more than 100 countries, including 60 ministers, several presidents and prime ministers, and leading academics were present. The seat for Bangladesh on the front row, thanks to the alphabetical order, remained vacant, behind the prominently displayed name plaque.

MANZOOR AHMED

THERE are international meetings and conferences galore, the value of which may be questioned. These are of all kinds and serve diverse purposes. However, there are conclaves of global scope on important subjects which set standards and indicate directions for the world by sharing experiences and consulting stakeholders, including governments, institutions and civil society protagonists. The World Conference on Higher Education convened by Unesco in Paris, July 5-8, was such an event. The last such forum was held in 1998 and the next one will be a decade hence.

Over 1,200 delegates representing more than 100 countries, including 60 ministers, several presidents and prime ministers, and leading academics were present. The seat for Bangladesh on the front row, thanks to the alphabetical order, remained vacant, behind the prominently displayed name plaque.

The minister of education or the University Grants Commission chair should have been here. There should have been also a few vice-chancellors from the vibrant private sector.

In the absence of a delegation from home, why the permanent delegate of Bangladesh to Unesco could not at least fly the flag is not known. Is it because the foreign service bureaucrats who adorn these positions are uninterested or unable to make any contribution to the dialogue? There is a case for sending an academic to Paris as our chief diplomat.

I found myself to be the sole participant from Bangladesh in this premier world forum on higher education, as an invitee of

Unesco, not to represent Bangladesh, but to serve as a panelist on a session on access with quality and equity.

Apart from registering my disappointment at Bangladesh's no-show, I would like to highlight a few ideas emanating from the conference, which may be of relevance, especially to the Education Policy Formulation Committee.

Expanding access with equity and quality has become the pivotal issue in higher education. Traditionally regarded a privilege granted to a few, Europe and North America now have three quarters of young adults participating in post-secondary education and they aim for universal access. Globally there has been a rapid recent expansion of higher education -- enrolment reaching some 26 percent of the 18-24 years age-group in 2007.

China, historically a laggard, has surged ahead to 26 percent, compared to 12 percent in India, 7 percent in Bangladesh, and 4 percent in Pakistan, according to data from the Unesco Statistics Institute. By contrast, South Korea offers 90 percent of its young adults the chance to enter tertiary education, and Thailand 50 percent.

With pressure to expand, great diversity has emerged in higher education with at least four tiers in it -- community colleges and post-secondary vocational-technical training, four year degree colleges, general and specialised universities with undergraduate and post-graduate programs, and elite universities with strong post-graduate and research programs.

Higher education, therefore, has become highly hierarchical -- almost like a caste system.

An enclave of the intellectual elite -- with

highly restrictive entry to the sacred precinct -- is the classical model of higher education, which is no longer relevant. Most of higher education now consists of non-university institutions, which serve the majority of tertiary level students; in Bangladesh it is 80 percent.

The system needs to look at all of its components, support each other and consider how access can be expanded with equity promoted and quality protected for the whole system.

The higher education system has remained remarkably aloof from the problems of basic education at the primary and secondary level. Yet, the quality and equity problems of higher education cannot be solved by action within higher education itself. Deficiencies in competencies and skills of secondary education completers, unprepared for the tertiary level, are the major obstacles to improved access with quality and equity at this level. In its self-interest, the tertiary system needs to find ways to be engaged in improving the basic level.

Moreover, teaching in primary and secondary education forms the largest single professional category which absorbs the products of higher education. Producing teachers in huge numbers, especially teachers for science, math, and languages, adept in content, new pedagogy and new communication technology, is a challenge everywhere for the higher education systems. Out of the box thinking is needed in Bangladesh, where pre-service teacher development largely does not exist.

Digital platform of shared information, materials and experience can be the means of qualitative transformation of education with expanded access and equity built into the notion of quality. The ICT infrastructure must be built and expanded to allow ICT access as a necessary condition; then come the challenges of integrating ICT with pedagogy and creation of platforms and portals for developing, assessing and distributing relevant contents. Tertiary institutions need to face these challenges for themselves and to help quality transformation in basic education.

Microsoft announced its plan to collabo-

rate with Unesco in launching a "Learning Alliance Package" which would make solutions for access to digital content available at low or no cost to students on a mass scale. A totally on-line university program has been in operation in University of South Africa with an enrollment of 250,000.

The principle that should guide ICT-based distance education is "tolerance at the point of entry -- rigour at the point of exit." But many things must happen in-between, if access with success, not mere access, is taken as the aim.

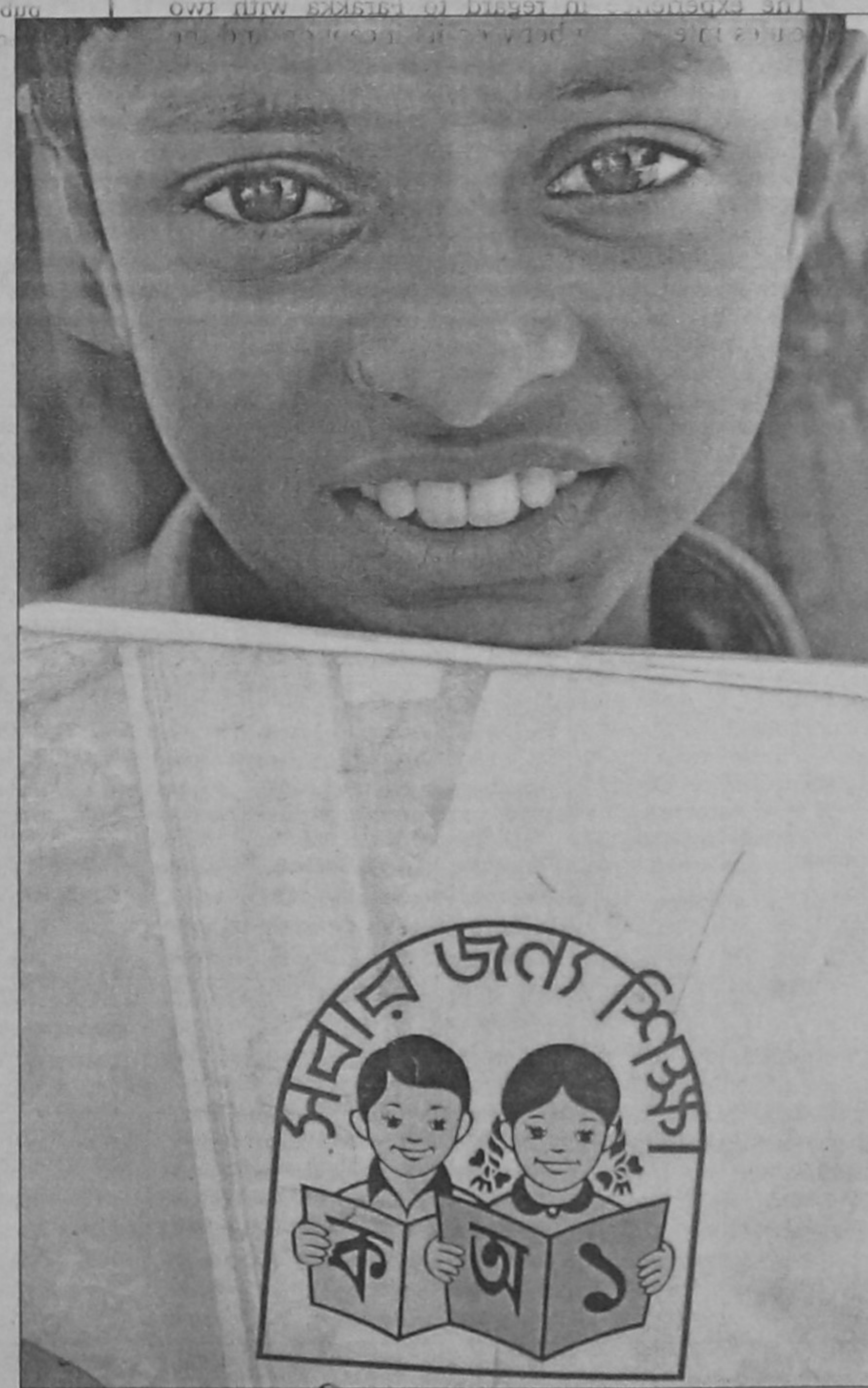
Effective governance is the pre-requisite for good ideas to be translated into reality. Progressively greater autonomy of institutions with responsibility, transparency, accountability, self-assessment and peer review -- and less political calculations, within a framework developed by stakeholders, is the key to good governance. The accountability structure has or should have many layers -- accountability to the nation, to society, to students, to parents, to the community, and to professional peers.

Privatisation and commercialisation have come to stay and will expand. But the public good character of higher education must not be lost. Modalities have to be found, indeed can be found, to protect the public good character of higher education through partnerships, with the public system backed by the government taking the lead.

It was noted that there was a "struggle for the soul of higher education" -- globalisation and commercialisation are the villains. But the traditional concept of the mission of higher education -- the ivory tower, the enclave of the intellectual elite, the bastion of knowledge and wisdom where only a few privileged ones are granted entry -- cannot be the main inspiration that animates the soul of higher education in the 21st century.

The presence of a few of the stalwarts of higher education in Bangladesh at the conference in Paris would have been worthwhile.

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Will higher education remain a luxury?

## Leeks, onions and other famous Asian meats



A leek is a large green and white vegetable which looks like a spring onion designed by Texans. It became a hot news item last week, so I was commissioned to bring one to a TV studio. I found a huge leek, about the size and shape of a sawn-off shotgun, in a luxury

delicatessen. To save the environment, I refused a plastic bag. This was a bad decision. There are not many people walking around the central business district clutching oversized vegetables. Everyone stared. I held it like a truncheon. I may have started a trend.

Leeks are newsworthy because new laws in Taiwan mean they can no longer be served to vegetarians. Offenders can be fined up to \$6,000.

On my way to the studio, I stopped for a coffee with a Western friend who has lived in Asia for four years (i.e. he's a newbie who has no idea what's going on around him).

"I hate to make personal comments,"

he said. "But you're carrying a large vegetable."

I replied: "Aren't you? You mean you don't know about the Wednesday vegetable requirement?"

His eyes widened with worry, so I explained that I was joking, and this vegetable was for a TV news report that in Taiwan, leeks were now technically meat items.

"That's also a joke, right?" he asked.

But it wasn't. In Asia, people have a much broader definition of meat than Westerners. In Thailand, vegetarians don't eat onions. In Gujarat, veggies avoid beetroot. In parts of South India, "no meat"

means no carrots, tomatoes, pumpkins, or radishes. Buddhists in parts of China and Malaysia refuse to eat dishes containing chopped up pieces of poor little garlic cloves. Brahmins in South India will not eat eggplant, Vaishnavas will not eat potatoes, and Jains would never harm an innocent mushroom. In general, Buddhists cannot consume anything which contains more than eight per cent alcohol, so they would be unable to eat Mel Gibson, for example. (Yeah, I know, what a shame.)

There are exceptions. Sri Lankans pay lip service to these rules but in private will viciously dismember onions without a

qualm. And Hong Kongers eat everything, often forgetting to ask important questions such as "is it edible?" or "is it dead yet?"

There are solid scientific reasons why many folk in Asia classify vegetables as meat. Indian writings say pungent vegetables such as leeks "spring from the blood of slain demons." (So that's why I've never managed to grow them in my window box! I was using seeds.)

Because of this, vegetables are said to change the personality. You can only offer green chillies at temples, because red ones are associated with misbehaviour. The same is true for leeks, which are associated

with excessive passion that can lead to violence and sin.

Eventually I arrived at the television station, having obtained a bag to hide my leek. The guard at the building noticed the rifle-shaped item under my arm. He opened the bag and looked inside.

"Nothing dangerous," he said, handing it back to me. Little did he know.

I am going to eat the leek tonight and see if I do more than my usual amount of violence and sin. I may even garnish it with a red chilli. Be very afraid.

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