SERI Background Paper

Sustainable Development and Social, Ecological, and Economic Transformation in Vietnam:

Insights for Policy

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1. Introduction

Vietnam has made remarkable progress, socially and economically, over the last decades. Those past successes are a source of confidence that it will be able to meet future challenges just alike, but in order to do so a clear recognition of what the challenges are, and where the established business as usual will help, and where it will fails solving the upcoming problems.

The UN Sustainable Development Goals, which Vietnam has adopted and supported, give a first hint of how broad the problems are. For instance, fortunately Vietnam has been enjoying an extended period of peace (SDG 16), and has been actively search for partnerships on the international stage (the recent free trade agreement with the EU being just one example – SDG 17). Industry, innovation and infrastructure have made remarkable progress (SDG 9) and economic growth has been impressive (SDG 8; although there is room for improvement regarding decent work). Zero hunger (SDG 2) is almost achieved, and the progress towards SDG 1, No Poverty, is remarkable.

The Sustainable Development Goals, part of the UN 2030 Agenda

However, Health and well-being (SDG3), Quality Education (SDG 4), Gender Equality (SDG 5), Affordable and Clean Energy (SDG 7), Reduced Inequalities (SDG 10)

and Climate Action (SDG 13) have not kept pace with the rapid economic development. Unfortunately, there are even negative developments being found, related to Clean Water (SDG 6), Sustainable Cities and Communities (SDG, 11) Responsible Consumption and Production (SDG 12), and Life Below Water (SDG 14) and On Land (SDG 15).

This uneven progress shows clearly where improvements are required, but also which achievements to celebrate and to consolidate. Unlike countries in a settled, if not static situation, Vietnam has to accommodate all these objectives during multiple overlapping transition and transformation processes. While this is an obstacle given the limited human, economic and physical resources at hand, it is also an opportunity: it is easier to modify existing dynamics than starting major transformations from a static situation.

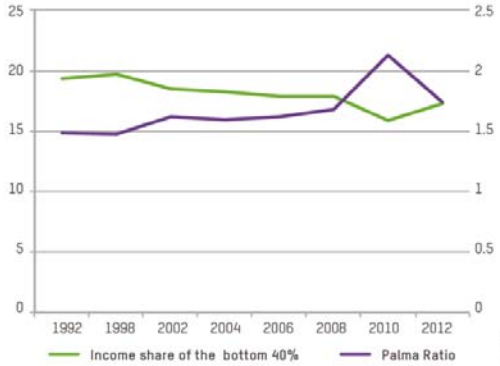
Vietnam is confronted with a number of interacting transitions and their implications, from a poor to a middle income and from an agricultural to an industrialised economy, from a rural to an urbanised population distribution, from a planned to a socialist market economy, and from a rather steady state to a rapidly changing climate (increasing typhoon frequencies and strength, rising sea level, biodiversity loss, environmental pollution), on top of multiple existing environmental problems.

2 Transitions

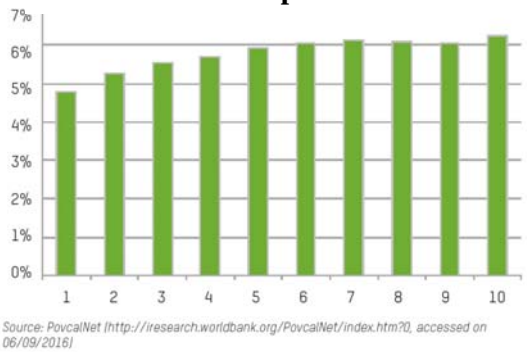
2.1 From a poor to a middle income country

While the ongoing eradication of poverty is highly welcome to everybody, the benefits of economic growth have been distributed unevenly – as it is usually the case in market economies in the absence of counterbalancing policy interventions.

Bottom 40% and top 10/bottom 40%

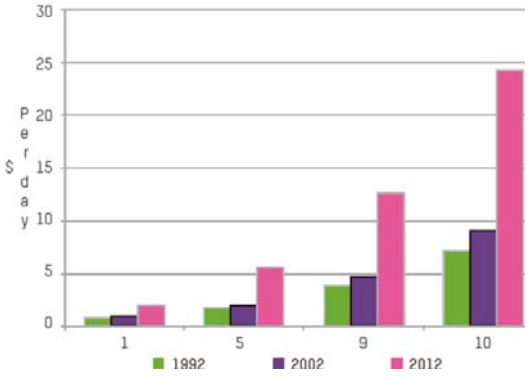


Annual average consumption growth 1992-2012 per decentile



Smallholder farmers in Northern Vietnam and ethnic minorities are amongst those who have gained least, while urban elites and large scale farmers in the Mekong are amongst the winners.

Average daily consumption of selected decentiles 1992-2012



The result are increasing social tensions which cannot much longer be pacified with the promise of future economic growth, as the disadvantaged remember the limited benefits they had from past growth. Redistribution of income and wealth can be expected to become a condition of social peace over the next decade.

Furthermore, increasing wealth causes increasing energy demand, which Vietnam so far meets by building additional coal fired power plants. However, their emissions contribute not only to climate change which will hit Vietnam more harshly than most other countries in the world (see below), they are also one main reason for urban air pollution, particulate matter, health impacts and imping on the life expectancy at birth, let alone the health life expectancy.

Another issue of increased consumption is private cars, which do not only contribute to climate change (and as durable objects, like the power plants, program higher emissions for an extended period of time), but also to infrastructure demand endangering biodiversity, accidents causing significant social cost, and reduce the inhabitability of cities (see below, urbanisation). Thus the government should discourage private car ownership, for instance by banning all private cars in the inner cities (on the countryside, they offer serious benefits).

Finally, Vietnam must continue the process of economic diversification, if only to balance the risks of an increasingly volatile world market. Given this high demand for jobs, first luring low productivity, job creating productions to Vietnam (the US-China trade conflict may offer opportunities), but not with a perspective of getting stuck at the low end of the value added chains, but as an entry point for higher value added production, and as a job opportunity for non-skilled labour (an aspect all too often forgotten in Europe).

2.2 From an agricultural to an industrial economy

Vietnam has successfully mastered the development from food shortages to being one of the bread baskets of Asia. However, the process of increasing harvests has been uneven: the privileged members of the Vietnamese society are mostly not from the agricultural sector, but from urban business and service sectors. The highest growth of agricultural production took place in the Mekong delta where rice for the world market is produced using heavy loads of chemical inputs. In Central and Northern Vietnam, where most farmers produce for the local or the domestic market, harvests are lower, fields are smaller, family farms dominate and farmers are typically 50 years old, and older. Lower harvests are only to some degree the result of lacking efficiencies of scale – more so because farmers produce food for the extended family (many of them living in the city) by planting “aromatic” varieties despite their significantly lower productivity of typically some 6 t/ha. Only the rest of the area is used for high

yielding varieties (8-11 t/ha) sold on local or regional markets. This is possible due to the family farm management structure – in the South with paid workers on landholders' fields of dozens if not hundreds of hectors, this is almost impossible

Sufficiently high rice harvests will remain important for Vietnam, both for reasons of food security which is given both in the South and most parts of the North; however, some indigenous mountain dwellers harvest less than they need to make a living and receive state support due to an unwelcoming landscape of steep hills, and a climate permitting only one harvest a year. This risk is amplified by the heritage customs which command dividing up fields (and nowadays use rights) between the children (i.e. not pooling them with one child), resulting in continuously shirking field sizes and the construction of new terraces in ever less suitable locations (one reason why about a third gets lost every year). In the South, high harvest volumes are important to farmers, provinces and the state as they yield significant export earnings.

Unfortunately, these achievements are at risk: Food security is under treat from climate change (see below) and the unwillingness of young people to become farmers, in particular in the family farms in Northern and Central Vietnam. In our interviews farmers characterised their profession as "hard work, badly paid and with low reputation" and advised their children to get education, move to the city and make a different career – and the vast majority planned to follow this advice. Others keep their

Farms, but earn most of their income in a comparably short period of working in a factors – these "hobby farmers" or "social farmers" enjoy working on the land as part of their local community, but have no incentives to maximise their yield as they live on their factory salary.

Thus food security concerns add to the previously mentioned reasons for income re-distribution. That will not be enough, however, to stabilise the farming population: political initiatives are needed to enhance the social standing and the reputation of farmers, e.g. as the “guardians of food security” to overcome the challenge.

Technical and planning measures like merging farms to enhance efficiency, and the increased use of mechanical equipment are useful, but are faced with tight limitations in particular in sloping landscape regions where dykes are needed to stabilise fields (the larger the fields, the higher the dykes, and the higher the dyke, the less extra-weight of equipment it can hold). Shifting from rice production to more lucrative fruits and vegetables can improve the farmers’ income situation, but poses another threat to food security. Thus attracting more farmers to the countryside remains a social and economic necessity despite the process of urbanisation.

2.3 From a rural to an urbanised society

The expansion of urban settlement areas not only impinges on the available fertile land for agriculture, but also requires major investments into settlement, water and waste management and transport infrastructure. If settlement growth and infrastructure development are not well coordinated, additional risks to drinking water quality and public health are looming. So far it seems planning is effective, but blue and green infrastructure only play a minor role, while the respect for the cultural heritage seems to have limitations.

A particular challenge to urban development is the increasing level of auto-mobility: whereas motorbikes are a means of transport the urban road system can accommodate although having been designed for less people and pedestrian and bike mobility, they cannot deal with a high number of private cars. Ownership levels comparable to Western countries would lead to a complete collapse of transport which could only be moderated by sacrificing significant shares of the dwellings representing an important part of the Vietnamese cultural heritage. Policy initiatives limiting car ownership, or at least accessibility of urban spaces for cars (as in some Scandinavian cities, in Lon-

don and Paris), are highly recommendable not only for both HCMC and Hanoi, but also for other urban centres.

Urban societies function differently from rural ones – the basic unit of rural social structures are families and neighbourhoods, which are closely linked. Urbanisation breaks or at least dilutes these links, family connections remain but fade, while new peer and reference groups emerge, such as professional networks or those based on shared interests. Such networks automatically constitute a civil society, which modifies the patterns of human interaction and the social fabric of the Vietnamese society, a process going on since a number of decades but accelerating more recently. Integrating such civil society dynamics and the re-emerging spiritual and ethical values with the political fabric of the country may be a key element of a future-proof stable development, of good governance for sustainability a la Vietnam.

2.4 From a planned to a socialist market economy

While the market approach has pushed innovation and economic growth, thus contributing to overcoming wide-spread poverty, it has also eliminated some of the safety nets people could rely upon in earlier times. Members of ethnic minorities complain about the loss of job guarantees they held in earlier times, which leaves no other alternative than farm work for some members who successfully finished their academic education (which is an uneconomic use of human capital). A climate of fierce competition in all social relations is fuelled by the role of the market as much as by the rapid urbanisation. Solidarity initiatives, organised by civil society in other countries, receive limited political support and are not necessarily welcome by authorities.

The majority of the population is affected by the necessity to pay for formerly public services such as higher education or health care which they perceive as serious impingements to their quality of life. As there is no inherent law of nature determining which goods should be private, which should be public, which should be merit goods and which should be (free or paid) entitlements for all citizens or inhabitants, every

society must make a choice. A socialist market economy will have to make its own choices, which however cannot be imitating the ones of capitalist market societies.

Maybe not the best role model to follow, given its domestic impacts

The USA doesn't offer a role model. Their system of fully private health care and limited social security provisions for old age, with no support in case of extended diseases and other not self-inflicted situations in which people are handicapped regarding earning a decent salary has led to the highest health care cost together with a shrinking life expectance, well below other affluent countries. Instead an analysis of the diverse social security systems realised in EU countries (at times when they were less affluent than Vietnam is today) might be helpful to stimulate thinking about a more accommodating system for Vietnam, although they do not lend themselves to be copied in a socialist market economy either.

Such inspiration might include considering ending the market relations in some sectors, but could also be the enforcement of market taming rules or collective payment systems, dependent on Vietnamese policy priorities. One condition may be broadening the tax base and enforcing payments by business and wealthy individuals

One element blurring the dividing line between market goods and public services is corruption; the credibility of any government suffers if efforts to minimise corruption are perceived as absent or failing. Transparency rules for corporations can be a tool to reduce the risk of corruption (for both domestic and foreign investments), and black lists of companies involved in corruption making them ineligible for contracts with state authorities or licences of all kinds are another one. Overall, it could be considered if there is room for business models other than state on privately owned, such as foundations, cooperatives and others which do earn profits, but are not bound to maximise them at the expense of public goods.

Where money makes the world go round, the World has a problem: *Corruption is the illegal privatisation of public goods, at the expense of the public. It cannot be eradicated but should be minimised.*

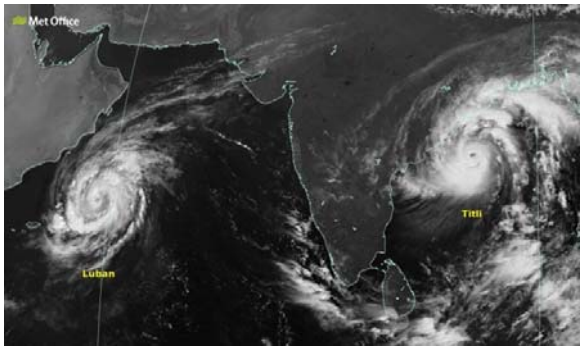
Economic development will require a solid underpinning by a growing domestic knowledge base, in science, engineering, but also social science and humanities. Regarding the international standing of Vietnamese research and other academic work, one key deficit so far is the language barrier: the scientific world communicates in English, which is admittedly a difficult language for Vietnamese speakers to master. Thus offering training courses by native speakers from different countries are advisable for every academic institution, as is a pool of experienced English speakers which checks and improves every English language manuscript before submission for publication. Guest teachers lecturing in English would prepare students for participating in the global research agenda, and the language skills of Vietnamese English teachers deserve some improvement.

2.5 From a rather steady state of environmental conditions to a rapidly changing climate and environment

Vietnam is one of the countries which will be hardest hit by climate change: more frequent and stronger typhoons threaten all coastal regions, and rainstorms of increasing strength the mountain regions. Sea level rise threats have been long underestimated, in particular as the last IPCC predicted a rise of about 1 m by the end of the century which appeared challenging but somehow manageable (although risky for HCMC). However, the latest expectations regarding sea level rise, taking into account new data from Greenland and Antarctica and the thermic expansion of the oceans by far surpass this estimate – it should be doubled, and taking precaution into account maybe tripled as it may be higher (like in the past) in the Vietnamese Sea than the global average. With about 2 m by 2100, sea level rise threatens ¾ of the area of HCMC, some $^{4}/_{5}$ of the agricultural area in the Mekong delta, and up to $^{1}/_{3}$ of the agricultural area in the Red River delta. While some nature based solutions such as revitalising mangrove forests can help against the most damaging effects of tsunamis and typhoons, there is no way to escape the effects of sea level rise. While some major cities in affluent countries like New York or London have been considering building dykes around their cities, huge technical installations fail on the soft ground of deltas in Vietnam, as everywhere in the world (leaving cost arguments aside for the time being). . In the UK, for instance, new building permits are only issued on the inwards side of settle-

ments, making urban areas slowly retreat from the risky coast (a rule established in the USA in the 1970s, but abolished by the Reagan administration – it would have mitigated their current problems).

Sea level rise is particular dangerous as it combines with on-land developments. The river water levels have already been decreasing in the last decades due to higher water flow speeds caused by higher dykes reducing the flooding area, high ground water abstraction and upstream interventions resulting in less sedimentation. Subsidence leads to salt water intrusions, putting agricultural production at risk even before climate change induced sea level rise leads to the flooding of significant parts of both Vietnam's great deltas, in particular of the Mekong. As if the loss of large fertile areas were not enough (only a limited range can be reused e.g. for shrimp aquaculture and/or by nature based solutions such as the re-use of floating rice), salt water intrusions in the Mekong put one of the world's largest freshwater fisheries at risk, which is already getting under heavy stress from the upstream dam construction plans. A supply alternative for this important protein source is not available, making the risk of under- and malnutrition acute again.



In a situation of increasing stress on natural systems, strengthening their resilience is an imperative. However, in Vietnam the opposite has happened: with the promotion of high yielding varies, traditional ones have been lost and the gene pool has been shrinking. Forest degradation has led to additional loss of biodiversity, as has water pollution, insensitive urban, coastal and rural development including infrastructure such as roads and industries such as mining and overall, environmental pollution. Careful land use planning, coherent and enforced is one of the most important tools to stem these developments.

Furthermore, in both delta regions, the increased yields upon which the export success is based have come at a price: 3.5 harvests per year were made possible by building

higher dykes which in turn accelerate the Mekong water flows, reduce sedimentation and contribute to sinking ground. As the yield beyond the third harvest is relatively meagre while the input cost is high, lowering dykes, permitting longer periods of flooding might be one cost effective way of slowing such negative trends (of course combined with political efforts to stop upstream countries from causing havoc on the delta region).

In particular small streams and canals are highly polluted with pesticides

A relevant health impact, also affecting food security, is the pollution of river water (in particular in smaller side arms or in channels) with agrochemicals, and in particular with pesticides. Locally it is so high that using this water for washing and in particular for cooking and drinking is causing severe health risks (boiling the water before using it eliminates biological risks but increases the concentration of chemicals, and thus the intoxication risk). While formerly widespread contributions to the diet from snails, frogs etc. (in France important delicacies) are no longer available, some fish have accumulated enough pesticides for consumption limit recommendations of the WHO to apply, setting the acceptable daily intake of certain species as low as 3 gram per day.

3 Outlook

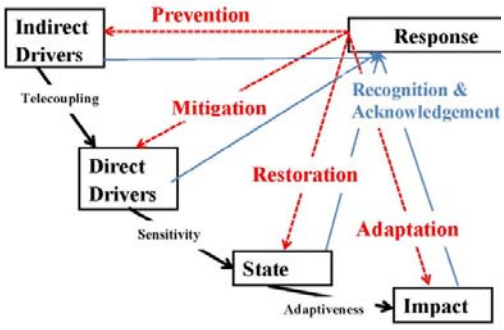
3.1 Understanding the challenges

One problem for longer-term policy planning is the current challenges are new, and hardly any experience is available how to best deal with them. Another challenge is that they appear simultaneously and with combined effects, which makes any prediction even more difficult. So the first necessity is to learn distinguishing between apparent problems and the drivers causing them, and develop adequate answers to the different challenges.

In Europe, the Environment Agency and the Statitical Office use a scheme called DPSIR (Drivers, Pressures, State, Impact, Reponse) to visualise these relations (IPBES, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services) calls Driver “indirect Drivers” and Pressures “direct Drivers”).

If changes are unavoidable and irreversible, adaptation is necessary (and if at all possible with foresight, like building dykes), while reversible changes of the state can be addresed by restoration measures like reforestation or re-establishing mangrove

forests as it is happening all over the Vietnamese coast. Both may be urgent and have to be undertaken immediately, but both will not overcome the problem: as long as Pressures and Drivers continue to be effective, once solved problems will reappear, albeit possibly in a modified form. Thus mitigating Pressures (= direct Drivers) is necessary to provide relief and end the pressure on the state as it is. However, even this is not enough: as long as the (indirect) Drivers are not changed, Pressures will build up again. Thus policy planning must define objectives, identify the Drivers preventing success, and overcome them by redirecting the Drivers towards benign purposes – obviously an issue of structural change in society and economy in need of careful planning, room for experimentation and courageous action. It should be mentioned that the responsibility for the different kinds of Responses may be attributed to different administrative levels, with Prevention usually in the competence of the top level decision makers.



Different problems, different responses: the DPSIR heuristic

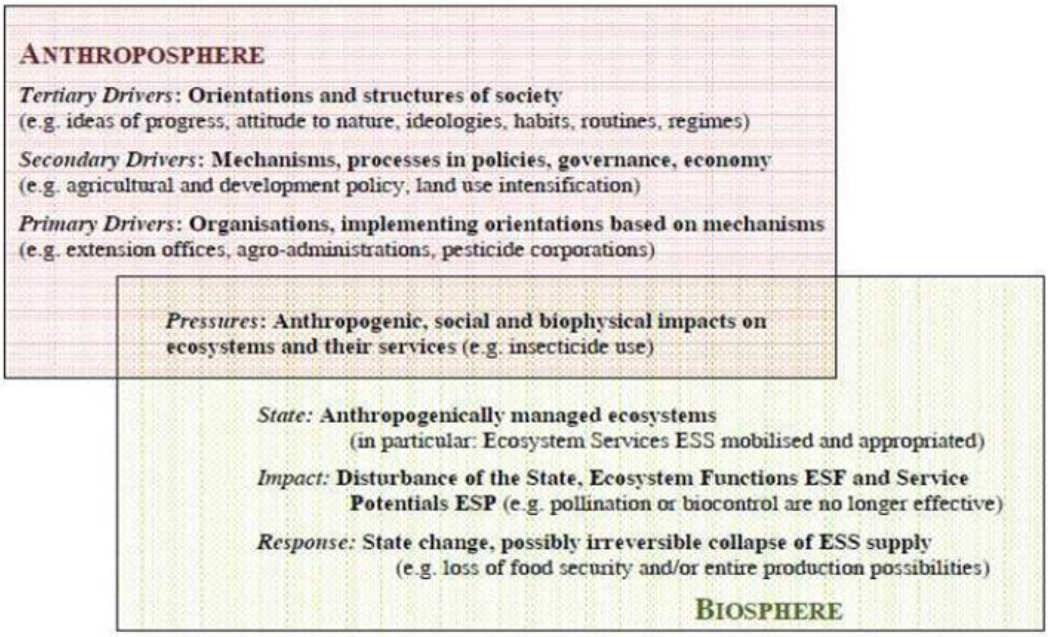
3.2 Institutions for change

The question then is one about agency: who are the actors relevant for such proactive policy development? According to political theory we may distinguish three levels of institutions (set of rules) on which tey are located; we thus differentiate the Drivers into primary, secondary and tertiary ones attributed to the three levels of institutions.

Organisations (associations, clubs, parties,…) implement rules, but also develop them and are structured and guided by rules such as bylaws, constitutions, mandates etc. They can have a high degree of inertia (i.e. resistance against rule changes) which makes them both indispesible tols of implementing change and a potential obstancle to such change.

Mechanisms are the second level, processes in policies, government and economy, including the rules of decision making. Laws and regulations are prominent examples: they set the goals and the means to pursue them for the organisations, but are also shaped by the organisations. Mechanisms should be reliable and transparent to generate a feeling of trust and security amongst those who have to follow the rules; unclear regulations or rules which are frequently broken become ineffective and invite circumventing them e.g. by corruption. A transition to sustainability as described by the SDGs will require adapting the prevailing rules to this vision, and restructure organisations accordingly.

The third level of institutions are orientations, the overarching goals of a society, including its ideas of progress and justice, attitudes towards nature and the public good, ideologies and other bodies of ideas orienting human desires and preferences. Whereas mechansims and organisations can relatively easily be changed by political decisions (if properly implemented), orientations pose a problem to decision makers pursuing change: while restricting what is politically possible without provoking resistance and unrest on the side of those affected, they are at the same time hard to reshape politically. They evolve through social processes and communication, but can also change abruptly as a consequence of deep shock events.



Drivers unpacked: the institutions accommodating them. While this scheme is for the impact on environmental change, the same exercise can be undertaken for social change, changing not the hierarchy and the levels of institution, but only the examples chosen to illustrate them

Consequently, addressing the Drivers is a delicate balancing act. However, orientations are not free from external influences – knowledge, discourses and daily routines, even if initially taken up involuntarily, feed back on the orientations. Social practices, once established, shape the orientations as much as they are shaped by them. Thus change on this level will be the result of combined pull and push efforts to stimulate the evolution of orientations, and to make them accommodate the changes required.

3.3 Policy reaction examples combining adaptation and mitigation

As a result of the new challenges, innovative adaptation strategies are required, in agriculture, industrial development, and economic and social planning, taking the effects of all three levels of institutions into account.

For instance, to safeguard the nutritional base of Vietnam, the farming sector needs major changes towards diversification, reduced pesticide use to safeguard drinking water quality, and remuneration to attract a sufficient workforce to the farming sector. Improving the reputation of farmers will be more difficult than increasing their income, but public media, political honours for frontrunners and overachieb´vers, and the involvement of farming communities in decision preparation processes affecting them may be means to change the prevailing perception. A large-scale shift to organic rice production could significantly increase the value surplus per hectare, thus solving part of the flooding problem for the export sector (although not for domestic supply, as for feeding the population the value has to be measured in calories, not in Dong). So far, despite government support, the sector is still limited, not least as the trust in organic or pesticide-free labels has been undermined by past experience (the mechanisms have not worked properly, as the were not stringently enforced by the organisations, maybe for a lack of competence, lazyness or corruption).

In energy policy, a change of priorities is urgent: If due the Paris Climate Accord fossil fuelled power plants have to be phased out completely by the midst of the century, building new ones today means they are going to end up as stranded assets, or they will testify the country's violation of the Paris agreement. It is easy to predict that those countries in flagrant breach may have difficulties in getting their share of the transition aid expected to become available under the Paris Accord (although a few major countries use their power position to ignore the treats and their responsibilities). Adaptation to and mitigation of climate impacts will require additional efforts, including restoration projects, from reducing groundwater abstraction in the Mekong Delta to coastal protection and agreements with upstream countries on water use.

This example shows that necessary adaptation, restoration and mitigation efforts risk ending up nowhere if not combined with prevention approaches, for logic of causal relations as much as for the logic of international financial flows.

3.4 Triangulation

Stakeholder dialogues on all levels

Validating information by using independent sources is known in science as triangulation. Successful policy development must be based on reliable information, but the more complex a society becomes in the development process, the more information is dispersed. Official information collection filters unpleasant results and hesitates to report underachievement. Thus effective governance requires additional,

but independent sources of information (as otherwise the validation would be futile); the emerging civil society, in particular in urban areas, could be one useful source of such information. Acknowledging this role and their usefulness for better governance would affiliate them with the overall development in a more harmonious relationship than scepticism.

4 Conclusions in a nutshell

Ultimately implementing the UN 2030 Agenda and its Sustainable Development Goals, which has been endorsed by Vietnam together with almost all other countries, poses a massive challenge and requires a balanced approach reconciling social, economic and environmental criteria. It requires making use of the full spectrum of measures, from adaptation via restoration to mitigation and prevention, and in order to achieve that, increasing flexibility of organisations, adaptation of mechanisms where necessary, without risking reliability and transparency, and the incorporation of the SDGs as “object of desire” into the orientations of the Vietnamese society. Quality in production and consumption (including organic rice agriculture), education, transparency, social sustainability and distribution may be key elements of a sustainable future for Vietnam. This is a huge challenge indeed, but not the first one Vietnam has mastered with bravery.