Abstract Concerns over food security have emphasized food while appearing to give less attention to the meaning and significance of security. Consequently, the valuation and perceptions of food have not secured its place at the top of a state’s priorities and at the heart of development. Many states have already bargained food production for resource extraction in their quest for revenues and this bargain is now being made in Laos. Observation and analysis of this process reveal why food consistently comes second to resource extraction, leaving people facing the peril of food insecurity. Valuation and perceptions of food often overlook its special significance as the source of life, sustaining society and its security. Food is as critical to national security as resources such as oil, steel and rubber that often pre-empt it. Food security will improve with the recognition of food as security.

Keywords Laos · Big-push development · Natural resources · Security · Food security · Food as Security

Introduction

Concerns over food security have been pulled from the shadows to centre stage in recent years. Attention sharpened as prices rose precipitously to peaks that induced fear and led to strikes and riots, and more hunger and malnutrition in many developing countries in 2008. Exports of rice were curtailed or suspended by some of the Third World’s leading producers. Since then Kuwait, Saudi Arabia and South Korea, among others, have stepped up efforts to secure land on long leases in Africa and Southeast Asia to produce food for their peoples (Grain Briefing 2008, Cotula et al. 2009). Some developed countries, for example the UK (DEFRA 2009; Kinver 2009), are not only wondering what their aid programmes can do to strengthen food security in the Third World, but also whether their own food security is in peril. As recently as 2003 the Food and Agriculture Organization (2003b, ch2) expected food security to improve: “There is a global food security situation that is steadily improving, with a consistently increasing global level of food consumption per capita.”

Food security is deteriorating because of worsening stresses in supply and demand. Average yields are rising 1.3% per year, which is just half the rate three decades ago and outstripped by the pace of demand (Roberts 2009, p213). Land for growing food has to fend off demands, often unsuccessfully, from uses such as growing crops for fuel, trees for pulp, and expanding cities. Agricultural land per capita has been declining. Prospects for bringing underused or marginal lands into production are uncertain because the amount of such land is disputed (Evans 2009, p21; Gaia Foundation et al. 2008) and by its nature may require uneconomic and unsustainable interventions to increase yields. Food production is also challenged by degradation, erosion and desertification of agricultural lands (Evans 2009, p19; Roberts 2009, p154, 208, 214; World Commission on Environment and Development 1987, ch5 II.3) in Africa, China and elsewhere. Supplies

1 Definition: Food security is a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life (FAO 2003a).

2 Arable land per person shrank 40%, from 0.43 ha in 1962 to 0.26 ha in 1998 (FAO 2003b, ch2).
of water face increasing competition from industry and cities, or are falling because of failure to manage a common resource, for example the aquifer that irrigates China’s northern wheat belt (Evans 2009, p23-24; Roberts 2009, p 228, 229-230). Climate change brings uncertainties of its own while threatening to exacerbate problems of water (Easterling et al. 2007, p299-300; Roberts 2009, p225, 226; Weis 2007, p36, 37) and drive up use of biofuels because they are perceived to generate less carbon than hydrocarbon fuels. Meanwhile demand for food and organic materials is rising because the world population, now around 6.5 billion, is expected to reach 9.15 billion by 2050 (UNDP 2009). Furthermore, urbanization and rising prosperity in rapidly industrializing countries, such as China and India, are accompanied by changes in food consumption towards the inefficient, meat-intensive diets prevalent in developed countries (Roberts 2009, p 107, 139, 143, 211). Little relief from these intensifying trends outlined above is hard to foresee (Grain Briefing 2008, p7):

“For a lot of people people in power, the global food crisis laid bare an overarching problem: that no matter where you look, climate change, soil destruction, the loss of water supplies and the plateauing of monocultured crop yields are bearing down as big threats to our planet’s future food supplies. This translates into forecasts of tight markets, high prices and pressure to get more from the land”.

Responses to the food security crisis have given much emphasis to food but less to the meaning and concept of security. This is understandable, and certainly necessary to mitigate immediate hunger and malnutrition. More food is needed for a growing world population increasingly inclined to eat more meat than at any time in history. Farming’s nature and potential is under review. Two major camps have emerged. One believes in the power of technology, especially genetic modification, to deliver a second Green Revolution to sustain industrial farming. The other looks to work with nature, refining more traditional techniques to enable farmers of small scale holdings around the world to sustainably produce quality food without depending upon unnatural inputs, many derived from oil or gas, or transgenics.³

Security has not drawn such a rich response. Interpretations are generally confined to issues of availability and continuity of supply of affordable and adequate food. Such treatment might apply to any commodity. Food is not perceived as remarkable. This perception is a philosophical error with profound consequences in reality. It misses a simple truth: without food we are dead. Food is essentially energy, fuel for humans. By contrast much is made of concerns over the supply of oil and its centrality to national security. Food then is remarkable, yet it is not treated as such. For food supply to be secure, it must be universally viewed not only as a commodity, but as a security good.

In practice it is not unusual to accord priority to activities, such as extraction of resources or plantations, which promise revenues and products that might in the short-term aid development but impose long-term complex consequences for livelihoods and ecologies that underwrite society’s national security by producing food. Damage to the environment and its ecologies appears to have been an acceptable trade-off judging by policies and strategies made by many governments when the world was less crowded and its sinks not so full. Revenues and jobs created in the process of extraction and processing arguably compensated for at least some loss of local production by providing means to import food while also engendering a sense, if illusory, of progress and hope.

Food could be a lesser priority in an age when it appeared that supplies from elsewhere were rising and would keep on rising. That age is now in question, if not passing. To secure food, it must be put before other activities and its position as an inviolable foundation of human existence and security recognized. Other needs and activities may then be pursued in ways which do not impinge upon food production and supply. In an ever more crowded world, trading local food production ecologies and sovereignty for the development of resource-extraction and dependence on food imports may no longer be the beneficial and efficient bargain it might once have seemed. The actions of some states alluded to above to secure food-produing lands and access to other commodities beyond their borders suggest they have concluded this bargain is poor and increasingly risky.

The bargain has, however, already been made in many countries around the world. In the Lao People’s Democratic Republic, or Laos, one of the world’s least developed countries, this bargain is being put to work. Laos therefore provides a stage for the play which reveals discontinuities, indeed the logical disconnects, that arise where exploitation and extraction of energy and commodities are put before the necessities of producing food, the most valuable commodity of all.

Food security in Laos has been low for decades because of the country’s prior isolation from its neighbours and markets, the challenges of highland agriculture, years of war, and a poor state whose policies have not always helped matters. However Laos is rich in hydro-electric potential, a trove of mineral commodities such as gold, copper, bauxite and coal, and soils, and climate favourable for organic materials such as rubber, cassava and the growth of trees for pulp. The rapid acceleration in mostly foreign investment to exploit these opportunities indicates that the state is

³ Roberts (2009) and Weis (2007) describe and analyse these trends in considerable detail.
pursuing a big-push development strategy, one with a disappoin- 
ting record in countries not dissimilar to Laos.

The onslaught of investment, on the one hand, promises 
revenues much needed by the poor Laotian state while, on 
the other, it exceeds the state’s capabilities to regulate 
conduct and enforce compliance with environmental laws 
that could preserve ecologies for food production. Such is 
the scale of investment and so deep is the poverty of the 
state that it appears unable to effectively administer and 
manage the flow of investment.

The consequences of putting investment first are the 
strangulation of livelihoods that produce food and the 
degradation of the environment’s natural wealth, systems and 
services that form a rich, resilient foundation for the cultivation 
of food crops. Prospects for restoring a semblance of balance 
and control are fading because of the resource curse which 
has frequently been accompanied by worsening food insecurity, 
a prospect now looming on the horizon for Laos. This 
evolving situation takes shape amid worsening global trends 
for food insecurity and static levels of food insecurity in Laos. 
Together the global and local trends do not promise 
significant improvement in the number of people suffering 
food insecurity in Laos. Furthermore, the nature of food 
insecurity will evolve where skillful food-producing live-
lihoods are replaced with low-skilled work in extractive 
industries, plantations or factories paying wages to buy food 
from the market. Where supply is abundant people may enjoy 
greater food security, but where supply is uncertain—as 
global trends indicate—their vulnerability to food shocks, 
including soaring prices or supply interruptions may increase.

This situation reflects perceptions and values that place a 
premium on extracting commodities to garner revenues for 
the state to spend on development and foster an economic 
model expected to more than compensate for its impacts on 
household and community livelihoods, the environment 
and food security. It is a grand gamble carrying significant 
risks for food production. The development paradigm, 
characterized as a big-push approach, tried elsewhere over 
the last century, particularly Latin America, with decidedly 
mixed outcomes (Sachs and Warner 1995, 1999) and 
chosen by Laos is ill-suited to a constrained world moving 
from an Age of Plenty to an Age of Scarcity.

Given the global trends that challenge the prospects for 
maintaining, never mind increasing, food supply and ques-
tions over agricultural sustainability, caution is not unwar-
ranted and can be satisfied through application of the 
precautionary principle. A precautionary approach would 
put food first because if it is not secure, even sovereign, then 
the security of society is put at risk. Putting food first, will 
require the reordering of priorities and recognition of the 
fundamental value of food in securing life and supporting 
society. As food secures life and the mission of national 
security is to secure society and defend its existence, it follows 
that food forms an intrinsic element of national security but 
one that is generally overlooked. Prioritizing food comple-
ments, even underpins, efforts by the United Nations and 
others that promote the right to food.

Recognition of food as a form of security will allow it to 
take its place beside other concerns, such as energy, that have 
dominated security thinking during the last half century or 
more. Food as security provides a paradigm around which to 
fashion development of the environment’s opportunities for 
energy and commodities in a manner that maintains the 
ecologies and livelihoods which support and nurture food 
production. Putting food first will strengthen the security in 
food security, thereby contributing to the comprehensive, 
sustainable security and well-being of citizens and society.

**Food security in Laos**

A passing visitor to the rustic villages of timber or bamboo 
houses, homes for most Laotians, found amid the fields or 
clinging to the rugged mountains might well conclude that 
life is good with gaggles of children running around playing 
and laughing, perhaps clutching a cob of corn or a banana. 
This somewhat idyllic impression hides the reality of poor 
food security with widespread hunger and malnutrition.

The Comprehensive Food Security Vulnerability Assessment, conducted by the World Food Programme (WFP) in 
2006, found among rural under-fives half were stunted, 
38% were underweight and 8% were affected by wasting 
(WFP 2007). They lived in the 13% of rural households 
suffering chronic food insecurity or among the two-thirds 
of households vulnerable to food insecurity due to natural 
disasters or loss of access to natural resources. One-in-three 
women are anaemic, one-in-eight at risk of goitre. A quarter 
of the population regularly goes to bed hungry. The situa-
tion may be even worse because data on what people are 
eating is insufficient (Lao PDR 2008, p 9–14, 78). This 
picture of chronic malnutrition has shown no significant 
 improvement despite economic growth averaging 7% for 
the last decade. Many people are not eating enough fats and 
protein, which they have traditionally gained from eating 
wild game and fish that are now threatened if not in decline 

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5 Numerous reports cast serious doubts on the stock of wild game and 
fish, some conclude that severe declines are underway due to 
environmental destruction and the demands of regional markets. Morgan 
Galland et al provide a comprehensive overview (Galland et al 2007).
The difficulties Laotians face in securing adequate food take place amid widespread poverty. Using the $1 per day poverty line, employed by the World Bank until August 2008, poverty in Laos has fallen from 53% in 1990 to 28.8% in 2002, the last year for which data are readily available (Asian Development Bank, or ADB 2008). The poverty picture may embrace many more people if reckoned under the new absolute poverty lines of $1.25 per day (World Bank) or $1.33 per day (ADB). Even without applying these yardsticks, the absolute number living in poverty is 1.5 million, or almost a quarter of the population, according to the National Steering Committee for Rural Development and Poverty Reduction (Vientiane Times 2009d). Other estimates run to around 2 million, a figure little changed for decades.

Soaring food prices in 2008 appeared to have less impact on Laotians than many other developing countries, partly because many people live only on the fringes of the market economy. They still grow, forage, hunt and trade locally for much of their food. However, for the minority of people who buy most, if not all, their food, the impact was greater because as food prices rose they had to spend more of their salaries on food. Anecdotal reports indicate office workers were requesting, unusually, pay increases during the year. Food price inflation has eased in the wake of relative stability returning to world food prices. In July 2009 food prices across Laos were 1.51% lower compared to those of July 2008.

Even so, the rise in prices has been a shock to livelihood calculations that were made in the previous years of relatively stable prices. Moreover, Laotians, particularly as their dependence upon cash and markets for food increases, could feel a squeeze as world prices are forecast to be 60% higher on average during 2008–2017 than the preceding decade (OECD-FAO 2008).

Policy

In December 2008, the government of Laos adopted the National Nutrition Policy, drafted with the support of bilateral development partners, which establishes a framework to improve nutrition by 2020 guided by the strategic principles of “sustainable production, harvest and consumption of nutritive plant and animal foods.” The policy aims to improve nutrition by protecting and promoting national food production and supply. It stipulates environmental regulations to protect household food security and enforcement of laws, particularly in the hydropower, mining and plantation sectors, requiring projects to proceed in accordance with the recommendations of environmental and social impact assessments (Lao PDR 2008, p12–15).

The government has identified availability of land as a critical factor for building food security. “If there is no clear land policy to promote rice cultivation and food production, it is impossible to ensure effective and sustainable food production,” said Prime Minister Bouasone Bounphavanh in March 2009. He highlighted the challenge of balancing national food security with the increasing demand for land for uses other than food production such as mining, plantations and power generation. He suggested developers of hydro-electric dams should make their reservoirs available to support irrigation for agriculture and indicated that the 2020 Agriculture Development Strategy will be revised to emphasise national food security (Vientiane Times 2009a).

In April 2009 the Ministry of Industry and Commerce requested funds from the national bank to finance a rice reserve, initially for Vientiane. The government also approved a proposal for private rice stockpiles after farmers were unable to sell all their rice harvests (Vientiane Times 2009b).

In October 2009 the Water Resources and Environment Authority (WREA) attempted to enhance its ability to protect the environment by requesting the cabinet approve a decree to strengthen its power and obligations to conduct environmental and social impact assessments of investment projects (Vientiane Times 2009e). If implemented and supported with sufficient funds and skilled staff, prospects may improve for protecting land for food production.

These important developments may be laying the foundations for tackling widespread food insecurity. Improving policy in other areas has been a factor in strong headline growth in the economy’s gross domestic product over the last decade or so. However the growing economy has not made much impact on absolute numbers living in poverty nor been accompanied by substantial improvements in food security. The persistence of food insecurity suggests that it is entrenched and has deep roots that go beyond problems in farming methods or inefficient distribution and markets.

Development

Interest in developing dams, mines and plantations to serve the demands of neighbouring markets has risen sharply during the previous decade, especially the last five years. Almost weekly, the state-run Vientiane Times reports new proposals and frequently government approval to proceed. Although Australian companies have made significant investments in mines, firms from China, Thailand and Vietnam are seen to account for much of the investment,
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with Chinese players now dominant. Their interest is matched by that of the Chinese state, with official delegations, often leading groups of businessmen, visiting almost monthly from across this vast country on the northern border of Laos.

Investors are drawn to Laos, despite the cumbersome bureaucracy (World Bank 2009a), because licenses for dams or mines, or concessions for plantations are available and costs are competitive. Furthermore, the low-population density at the junction of China and Southeast Asia is attractive to land-intensive exports. A brief survey illustrates the scale and trajectory of investment and its demands for land which compete with the production of food.

Dams

There were 10 dams in operation with 669 megawatts (MW) of generating capacity as of September 2009 (EPD 2009). By 2012 another 8 will be operational, delivering 2,531 MW. At least 19 are under planning and 42 the subject of feasibility studies. Projects have grown from simple one-off dams to complex intra- and inter-basin cascades. The first of seven proposals for dams across the Mekong mainstream in Laos is due to start construction in 2010 near Luang Prabang (Vientiane Times 2008b).

Dams could transform state finances. The government budget was $1.78 billion for 2008-2009 (Baccam 2008) and bilateral aid was about $300 million. The government is promised revenue of $1.9 billion over 25 years from just one dam alone, the Nam Theun II, the largest dam by far which has been built with finance from the World Bank. It has a generating capacity of 1,070 MW and will enter operation in 2010. The dam’s promised revenue equates to almost $1.8 million per megawatt of generating capacity. This crude benchmark suggests understandings reached to export electricity from dozens of dams in Laos now under construction or the subject of investment proposals to Thailand and Vietnam could produce revenue of $18 billion over 25 years or about $720 million annually, equivalent to 40% of the 2008–2009 state budget.

Mining

Two substantial gold-and-copper mines are now operational in Laos. Expectations are high, despite doubts in some quarters over the quality of deposits, that many more mines will enter operation because of the abundance of ferrous and non-ferrous minerals reported by government surveys (Vientiane Times 2009c) and the proximity of the world’s largest consumer of minerals, China. The United States Geological Survey foresees Chinese investment in potash or iron ore (Wu 2008). The fast growth of mining is illustrated by government projections which indicate that the sector will account for 10% of GDP by 2010 (BIB 2008).

The scale of mining’s potential is indicated by a bauxite deposit beneath the Bolaven Plateau in southern Laos. The Bolaven compares favourably in size and quality with Western Australia’s Darling Ranges, which produce 14% of the world’s alumina (Ord 2006a). Ord River Resources, an Australian-Chinese joint-venture, is preparing to invest $4 billion to mine part of the Bolaven deposit and build an alumina smelter (Ord 2006b). A hydro-power dam will be built to supply electricity at prices expected to improve the project’s returns. Indeed, it may be that hydro-power will improve the economics of mining generally in Laos.

As with dams, mining promises substantial revenues for the state. Gold and copper now account for half of exports and a third of the economy (Suzuki and Suga 2009). In 2007, mineral exports were worth $538 million (Pansivongsay 2009) with the treasury collecting $141 million from mining, of which $130 million came from Lan Xang, a gold-and-copper mine established by Australia’s OZ Minerals, which was acquired in 2009 by China’s MinMetals. Consideration of Ord’s bauxite project and interest from Chinese miners in potash, copper, iron and zinc suggest government revenues from mining of $250–500 million annually by 2020 are plausible.

Plantations

Across much of the north a traveller will see hillsides thick with plantations of dark-green, leafy rubber trees only planted earlier this decade or being terraced and planted with evenly-spaced saplings. Rubber’s long-term prospects appear promising (rubber plantations are also expanding rapidly in Burma, Cambodia and Thailand) because of rising global demand and questions over substitutes derived from oil. Many smallholders, tempted by traders from China who promise good incomes and supply saplings, are switching from cultivating food crops to rubber. China’s Yunnan State Farms has rights to develop 166,700 ha of rubber across four northern provinces. It took almost 50 years to plant that much in neighbouring China’s Yunnan province (Shi 2008, p64). Already rubber stands on at least 200,000 ha across

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8 Chinese investment now exceeds Thai investment amounting to $3.577 billion (Pongern 2009a).
10 At least 119 companies are examining 193 prospects (Barney 2007).
11 China uses 26% of the world’s alumina, 36% of aluminium, 23% of copper, 30% of zinc, 53% of iron ore, 37% of steel and 8% of gold (Hanna 2009).
12 It is unclear if these figures are annual or cumulative.
Laos (Vientiane Times 2008d). This may expand by another 300,000 ha (Pongern 2009b).

Other industrial crops and trees are competing for land with food production. Investors are making arrangements with national or provincial authorities (whichever happens to offer the best deal it seems) for plantations of eucalyptus, acacia, jatropha, sugar cane and cassava. China’s Zhongxing Telecom Equipment, or ZTE, for example, has approval for 50,000 ha of cassava in southern Laos, which may rise to 100,000 ha (Vientiane Times 2008a). ZTE’s interest in cassava, which produces starch, is unclear. If bioplastics prove commercially viable they may find a role as a replacement for petroplastics, commonly used in telecommunications equipment.

Accurate, current figures of land being put under industrial crops are not readily available. However, it is possible to gauge the scale of planting. Land concessions reported publicly in 2006 and part of 2007 total over 1 million ha (Hanssen 2007, p10). By 2007 the Committee for Planning and Investment, or CPI, had granted six foreign companies concessions totalling 150,000 ha with a combined investment of $500 million. Five firms had applied for a further 70,000 ha requiring an investment of $142 million (Barney 2007, p10-11). Investment proposals made to central authorities for plantations were close to 2 million ha in 2007 (Department of Forestry 2007). These figures may not reveal the full picture because a lack of know-how, budgets and equipment restricts the capabilities of provincial and district authorities to make accurate and timely estimates (Shi 2008, p15).

Further impetus for planting trees is found in government plans. The Ministry of Agriculture has a target of 500,000 ha of industrial plantations by 2020 (Barney 2007, p10) and the Department of Forestry aims to increase forest cover from 9 million ha to 12 million ha by 2010 (Department of Forestry 2007, p3-4), rising by 2020 to 15 million ha (Sub-working Group 2008, p2). What the government means by ‘forest cover’ and where it will find the money to achieve its plans does not appear to have been publicly clarified. If the intention is to expand forest cover by replicating the biodiversity of natural forests, which provide a great bounty of food products that still, even today, play a significant role in many people’s food security, then this is likely to be a complex and expensive challenge, especially as many trees found in natural forests grow slowly. Government targets, however, might be met without imposing a huge burden on the budget by allowing investors to provide the trees to cover the land through plantations.

Another factor driving interest in trees, possibly industrial varieties in plantations, are the elaborate mechanisms the world is putting in place to offset the growing build-up of carbon in the atmosphere. Laos is one of 20 countries piloting the Forest Carbon Partnership Facility (Department of Forestry 2007, p6). The Reduced Emissions from Deforestation and Forest Degradation (REDD) programme may also have some bearing on investments in trees in Laos. Failure elsewhere suggests such complicated schemes could face trouble.13

Implications for revenues are harder to estimate than those for dams and mining because there are many more projects, their size varies considerably and they are distributed over vast areas across many jurisdictions. Land in Laos is available under concessions at $6 per ha, whereas similar land in Vietnam is $20 and China $50 (Hanssen 2007). Applying the $6 per ha rate to the Ministry of Agriculture’s target of 500,000 ha of concessions suggests annual revenue of $3 million. By 2016 the Asian Development Bank, however, estimates annual land licensing fees and rents at $20–$50 per ha yielding $12.5 million for the government and $47.5 million in 2020 (Dwyer 2007). The reasons for the hike in revenues are unclear. It can be speculated that the Asian Development Bank foresaw concessions expanding beyond targets or expected a rise in fees, perhaps because of inflation. Even these higher figures are substantially below the potential revenues from dams or mining. In terms of terms of the trade-off between revenue and food security plantations may, depending on the nature of the land and other factors, offer the least attractive proposition.

Big push

The scale and speed of the investment in dams, mines and plantations are a big push attempt to rapidly lift Laos out of its low-income situation.14 The government’s publicly stated goal is that by 2020 Laos will have graduated from the league of least developed countries. Rapid development of natural resources on the scale now taking place in Laos holds the promise of generating substantial, on-going revenues that might be recycled into significant increases in public spending (another aspect of big push strategy) to address shortcomings in agriculture, food production, education, healthcare, infrastructure and so on. Potentially the condition and capacity of the population and its economy could be transformed in a generation if there is a broad rise in incomes to eliminate poverty, food insecurity and nutrition issues. Rises in income would have to be of a magnitude that enables the population to buy, with ease, food imported from more efficient producers in order to compensate for any loss of local food production due to land being used for dams, mining or plantations. Big push

13 Competence, capacity and the weak track record of similar schemes as well as the Kyoto Protocol itself raise serious questions over REDD (Brown and Bird 2008)
14 For discussion of natural resources and big push development see Sachs and Warner 1999.
attempts elsewhere have proven problematic, momentum and success being in many cases unsustainable (Sachs and Warner 1995, 1999).

If the big push fails to raise incomes substantially across the growing population and does not sustainably lift food output while impairing the environment’s potential to support agriculture then there is a risk that those whose incomes are inadequate will not be able to afford the food imported to offset local shortfalls in production. Furthermore, an increase in imported food relative to domestically-produced food will increase the country’s vulnerability to global food shocks and imported inflation. Given the difficult global outlook for agriculture and food which is driving some states to secure food-producing lands overseas, a food self-sufficiency strategy, such as that pursued by China, may have merit equal or greater than the uncertainties and risks of a big push.

State capacity

The scale, speed and complexity of investment in Laos must be matched by the state’s ability to monitor, prevent or mitigate damage to the environment upon which society currently depends for its food security. Investment is already in excess of the state’s capacity to monitor and regulate (Phetsomphou 2007). There is a chicken-and-egg element about what comes first, investment or regulation? Investment might generate the revenues to finance regulation. On the other hand, regulation might create the environment to sustain investment which would generate steady revenues over the long-term. It is not a conundrum without options. A state might review its priorities to shift funds from elsewhere into regulation. Investment project approvals could be kept within the state’s capacity to regulate or proceed on the basis that advanced payments are made to finance regulation. These approaches, or others, are not being taken. The adoption of regulation in Laos, judged by funding and government support, appears to suffer from inadequate political will.

WREA is unable to execute its legal duty to approve environmental and social mitigation plans and assessments — which many investors do not produce — because it is understaffed. Nor is it able to generate sufficient basic environmental data or undertake adequate monitoring and compliance during construction and operations of dams, mines and plantations. Environmental assumptions are weak and facts patchy because of inadequate basic hydrological, ecosystem and biodiversity data (Lebel et al. 2005, p12). Were the Agency to identify problems it could do little because it does not have the authority to stop projects (Lawrence 2008).

The Department for Domestic and Foreign Investment (DDFI) had received applications for 626 projects, valued at $2.79 billion, between 2000 and 2005, the monitoring and management of which were the responsibilities of a staff of four. No more than 10 officials with limited professional skills were charged by the Department of Geology and Mines (DGM) to monitor 66 mining companies running 122 projects (Dwyer 2007, p32).

The state’s limited capacity implied by the above figures is reflected in daily life. Potholes and missing manhole covers go unattended for months, even years in the capital, Vientiane. The wards of the city’s hospitals are a throwback to another era. Out in the provinces officials work from barebones offices put up decades ago. Computers are still few and internet connections patchy. Officials often lack sufficient training, labour under weak management and receive low salaries, pushing many to engage in other occupations. These deficiencies create conditions ripe for corruption.

Insufficient technical capacity for monitoring and regulation reflects broader shortcomings of administration for a poor one-party state attempting to manage the transition from a command to a market economy. Division of responsibilities between national and provincial authorities is unclear. Rather like China, provincial authorities often follow their own agendas rather than those of the national authorities (Lawrence 2008, p22) in part because the Laotian government lacks the machinery to quickly and effectively communicate intentions and policies (Schumann et al. 2006, p17). It is common for provinces and districts to exceed their authority in order to draw investment and omit technical and social assessments (Sub-working Group 2008, p3).

Confused and contradictory priorities surface over matters of land, crucial to most investment in Laos and critical for food security. For example, many senior officials in Bachieng and Champasask received rubber plantations after lending their support to land acquisition by companies (Baird 2009, p35). Village and provincial officials often discuss investment proposals requiring land without the knowledge of villagers (Baird 2009, p31). The army at times puts its private business interests ahead of public food security (Shi 2008, p31).

Record-keeping is poor. DDFI cannot supply detailed information about arrangements made for land between provinces and investors. Problems hampering a comprehensive inventory of state land are exacerbated because a centralized contract filing system for concessions and leases does not functionally exist (Dwyer 2007, p12, 13, 29, 31).
The land allocation programme is in such disarray, despite the support of the German development agency GTZ, it may have to be begun again from scratch.16 Shortcomings were acknowledged by the government (CPI 2006):

“It is necessary to invest immediately to improve the skills, but there is limitation of the budget, which restricts the ability of the nation’s development. The effectiveness of state administration is still limited.”

Consultants for the Asian Development Bank (ADB 2007, II.9) judged the government does not have the “…financial and technical capacities to implement large-scale complex hydropower projects.”

The shortfalls in capacity and administration leave the state ill-prepared to manage, monitor and regulate a handful of major projects, yet dozens are being implemented across the country plus hundreds of smaller ones. Thus the protection and strengthening of food security, which is so closely tied up to control, access and availability of land, as well as preservation of healthy ecosystems is a challenging situation in Laos. Constraints and gaps in capability across the state indicate that there is a risk of delivering outcomes short of what is necessary to reduce food insecurity.

Consequences

A surge of investment into resources overseen by a state ill-prepared to manage the challenge is producing negative consequences for livelihoods and the environment that form the basis of food production and food security. The situation will worsen if the looming resource curse cannot be dispelled.

Livelihoods and food security

The march of big-push development amid poor state capacity, weak administration and piecemeal policy is trampling on the environment and livelihoods necessary for food security in the name of national development to tackle poverty. Many of the presumed benefits lie in the uncertain future, while today the costs of so many dams, mines and plantations appearing in so short a time are already significant for food security (Lao PDR 2008, p6; Verniau 2008).17

Villagers of Pak Veng, in central Laos, are struggling to sustain their livelihoods and community in the face of multiple impacts. Their village has seen fisheries, riverside vegetable gardens and livestock damaged by unusually severe flooding during the monsoons along with other hydrological and ecological upsets after the Theun-Hinboun dam entered operation. Industrious and adaptable, the villagers switched their livelihood strategy from wet rice on paddies near the river to dry rice on upland fields beyond the reach of the dam’s consequences. They will not be reaping rice on the uplands for long, however. Their rice on upland fields will be replaced by acacia or eucalyptus plantations because the land is covered by a concession issued to Oji-Laos. The pulp produced from these plantations will supply the $1.7 billion paper-and-pulp mill the parent company Oji, of Japan, has built near Shanghai. Oji’s plantations in the neighbourhood have already displaced 94 villages that housed 56,000 people (Barney 2007, p47-48). Pak Veng villagers and some of their neighbours will also face the consequences of the Theun-Hinboun Expansion project, which will transfer water from one river basin to an adjacent basin to increase the flow of water to the turbines of the Nam Gnouang 8 dam. The power company is proposing to resettle their village in 2010 (Barney 2007, p4).

Resettlement efforts have been problematic in Laos, even those overseen by the World Bank to mitigate the effects of the Nam Theun II dam it helped to finance.18 The future for Pak Veng villagers does not look promising as the sustainability of their livelihoods and community is in doubt. They will be more vulnerable to acute and chronic food insecurity and their capacity to produce surpluses, which could be used to bolster national food security, will be compromised.

Theirs is not an isolated case. Similar experiences have befallen other villages near dams, like the Houay Ho, and plantations. Accurate figures of how many villages will feel the impacts of dams, mines and plantations in the future as big push development continues are not available. For more and more people the net effect is growing vulnerability or actual food insecurity. Dams, mines and plantations under the current free-for-all are tearing holes in the natural food-producing safety net of fields and forests that, until now, has been there to catch people when severe weather, blight or recession knocks them down.

Where the safety net is torn, the alternative is to join the exodus of people from rural areas — taking with them deep wisdom borne of generations of working with their local ecology to farm, fish and forage — in search of livelihood security, on or off the land. If that unique, ecosystem-specific knowledge is not recorded prospects will dim for food security and the culture and craftsmanship of smallholder sustainable agriculture. With fewer hands

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16 The situation was outlined at a meeting of the international NGOs’ Land Issues Working Group in Vientiane, January 2009
17 Serge Verniau, FAO country representative Laos.
18 The Bank acknowledges problems with resettlement although it may disagree with NGOs over the severity and prospects for improvement. “The progress remains mixed across the resettled population (World Bank 2009b).”
and fewer fields and forests for producing food, Laos will be unable to escape growing dependence upon imports to feed its people along with the exposure that brings to global uncertainties of availability and price.

Big-push development’s collateral opportunities and incomes must be plentiful and arrive quickly to cancel out the impacts described above that do not augur well for food security. So far those opportunities have been shared unevenly (Rigg 2006, p131-132) reaching a minority of farmers in the right locations with secure fields and water who are able to refocus their skills and resources to serve expanding markets and rising demand that might be attributed, partly, to multiplier effects of big push development. There are instances where villagers are successfully demanding higher prices for their land or even refusing to sell (Baird 2009, p31) which may bode well for food security. Plantations create some work but it usually pays poorly, is sporadic and does not always tee with people’s farming duties, if they still have fields worth farming.

Dams are expected to indirectly improve living conditions and reduce poverty, claim senior officials.19 Measures to tackle poverty will, the government has promised, be funded from revenues generated by the Nam Theun II dam. This was a condition for finance from the World Bank. It is unclear how this will be enforced and whether it will result in a net increase in poverty-reduction expenditures equal to the revenues from the dam or how funds will be protected from the clawing paws of corruption. Food insecurity might then be reduced as part of efforts to tackle poverty, but how this might come about is not clear. Impact assessments commissioned by the Asian Development Bank posit that the development of dams across the Nam Ngum basin, near the capital, will improve irrigation and access to markets for households selling cash crops and forest products other than timber (Vattenfall 2008).

Mining, because it is usually highly mechanized, is unlikely to be a source of mass employment and therefore not able to offset the negative effects on livelihoods crimped or eliminated when fields, forests and rivers are put to use for big push development. In Botswana, where diamond mining has dominated the economy for decades, the industry accounts for only 4% of the workforce (Hillbom 2008, p196). Bauxite mining on the Bolaven Plateau occurs in the vicinity of prosperous farming of vegetables, fruits, coffee and tea by smallholders making the most of the rich volcanic soil. Whether regulation and competent mine management can prevent pollution of the soil, water or air affecting farming livelihoods remains to be seen. Experiences in Indonesia, Philippines, Zambia and elsewhere in the world raise doubts (Bennagen 2002; Castilhos et al. 2006; Simutanyi 2008).

Environment and food security

The ecological safety net which underpins livelihoods of farmers is fraying because dams, mines and plantations pull apart the environment, weakening synergies, and reassembling the parts in ways that better serve discrete industrial needs rather than the requirements of plants and animals from which people can sustainably obtain food and materials. A profound reshaping of the environment and its ecologies is taking place undoing age-old assumptions that lie at the heart of traditional livelihoods and their land-food symbiosis.

Large dams enclose a free-flowing river’s kinetic energy, using it to generate electricity, while slowing or blocking the flow of energy which has powered Nature’s systems, services and living organisms. Dam reservoirs engulf food-producing fields, forests, and free-flowing river fisheries (and release lower-quality water to downstream communities and fisheries). They damage or destroy livelihoods and displace villages to new locations often unable to provide the natural resources which would restore their livelihoods and household food security. Affected communities, like those of Pak Veng, are not then in a good position to produce reliable surpluses of crops and food, even taking into account reservoir fisheries, for sale to markets serving the growing national population. The ramifications extend far because fish are a major source of protein in Laos.

Around the world, mining has left a trail of poisoned soils, water and air. The Australian-run Phu Bia gold mine in northern Laos, for example, accidentally released cyanide into a stream communities relied upon for fish in June 2005.20 As more mines enter operation in Laos so do the risks of accidents occurring, damaging the health and food products of ecosystems.

Where dams and mines intensely exploit resources, concentrating damage and pollution around the production site and generally downstream or downwind, plantations are extensive, their homogeneous monocultures sprawling across vast tracts of land that did and could play a critical role in securing food. They are the antithesis of the polycultures typical of indigenous or pre-existing practices and systems for sustainably reaping the fruits of the environment without destroying it. From simple, narrow perspectives, monoculture plantations for industrial crops have significant advantages in terms of efficiency, yet these are illusory because they depend to a great extent on externalizing costs and impacts onto the environment, its ecologies and food-producing livelihoods. Plantations effectively extract a subsidy from the environment and

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19 A position attributed to the governors of Attapeu and Sekong by a Vientiane Times report cited by Lawrence (2008), p61

society, which at best is only partially repaid by jobs and taxes. Current approaches and paradigms for culturing commodities like rubber, pulp and starch are simply inimical to food security in Laos.

Big-push development has direct consequences for people producing food. It also has indirect consequences by pushing them into excessive foraging in forests to offset food and livelihood losses from lost fields or ruined fisheries. New roads also make access easier for foragers and hunters from far away. The International Union for the Conservation of Nature draws a grim conclusion (Galland et al. 2007, p4):

“It is clear that in Lao PDR, like in many other parts of the world, we can no longer rely on the regenerating process of nature alone—humans are impacting significantly and without conservation and better natural resource management, more biodiversity will be lost.”

Overlapping footprints and trails of pollution and destruction extending far beyond the production from dams, mines and plantations generate effects across ecosystems. They upset the flows of nutrients across a landscape into agricultural practices. Farmers can only cope with so much disruption before they are left facing more acute food insecurity that may turn into chronic food insecurity.

How much stress and change can be absorbed by the environment without bringing a crash in local food production is unclear, but already there are growing concerns about food security in the northern province of Luang Nam Tha following the rapid expansion of rubber plantations. One outcome is that people will dip more regularly into stocks of food, seeds and forest foods. In such a situation it will be a challenge to restore stocks because of the degraded nature of the ecosystem, nutrient flows and land availability cumulatively deepening vulnerability over time, forming a negative feedback loop. Similar affects have been seen in Africa leading Gordon and Enfors (2008, p46) to suggest: “...land degradation deepens the poverty trap, decreasing the likelihood of a shift to a higher welfare equilibrium.”

The state’s big-push development amounts to a vast experiment for the environment, livelihoods and food security bringing to mind the eager, but unwitting, tyro in Goethe’s The Sorcerer’s Apprentice.

Resource curse

The Global Hunger Index suggests there is a coincidental, if not causal, relationship of intermediate strength between resources and food insecurity. Of 34 countries the index classifies as alarming or extremely alarming, resources were a significant factor in the economy of 15 including Laos. Resources already account for a third of the economy of Laos — almost as much as agriculture — and are a fast-growing source of revenue for the state. Energy and ores are capital-intensive industries that carry risks of corruption greater than labour-intensive agriculture and food production (Leite and Weidmann 1999). Corruption in Laos is already severe and is perceived to be worsening with the country falling seven places in the Corruption Perceptions Index during the last year to stand between the Central African Republic and Tajikistan (Transparency 2009).

Weber-Fahr (2002) argues that whether resources support or damage a country depends upon the quality of governance and institutions. Kolstad (2007) posits primacy of the law, efficient administration and the risk of contract repudiation as crucial to determining whether a country falls under the resource curse. The World Bank identifies pro-poor public and corporate governance, strong social and environmental policies, and respect for human rights as factors necessary to ensure mining will help reduce poverty (Extractive Industries Review 2003). Laos fairs poorly against four criteria suggested by Porter (2007) to indicate vulnerability to the resource curse (Table 1).

Big push development, under the aegis of an ineffective state, is generating consequences that on balance are negative for food security. The apparition of the resource curse and experiences in other countries that have tried to use substantial endowments of natural resources to drive development out of poverty suggest an environment is taking shape that is not conducive to improving food security. The prospects do not appear promising according to Fullbrook (2010):

“The trends, vectors and consequences of dams, mining and industrial crops do not inspire confidence that they will collectively reduce vulnerability and improve resilience to food insecurity, nor do a great deal to tackle poverty, expand prosperity and deliver sustainable livelihoods with dignified well-being. If anything their cumulative and intertwined impacts upon people, livelihoods and agro-food ecosystems point towards quite the opposite.”

Analysis

The Laotian government is in a state of contradiction. Its intentions for food security are not matched by actions which favour investment. Food security, poverty and the

21 Weber-Fahr’s paper was written for the World Bank, which has financed the Nam Theun II dam and appears to support mining in Laos.
environment are expressed as priorities, but funds, policies and coordination between ministries and agencies are not there to produce the outcomes suggested by intentions. Investment is being approved and implemented at a rate far faster than the development of regulatory capability to manage the impacts of investment. The state is, as yet, unable to grasp the over-arching, strategic nature of food security that is borne of the interaction between the environment, livelihoods and development paradigms.

Capacity gap

The government recognizes its deficits in know-how, skills and abilities to manage investment and monitor environmental damage. Nevertheless, the state has not curtailed the flow of investment nor, it seems, has it initiated a fundamental redesign of investment policy, practice, and regulation. Environmental security, which underpins food production and therefore contributes to food security, is left effectively undefended by the state. WREA’s request in October 2009 for a new decree strengthening its power and duties to tackle concerns over the environmental and social impacts of investment (Vientiane Times 2009e) illustrates how far capacity lags behind the consequences of investment. To turn the situation around will require more power, authority, budgets and staff than one decree can provide. To recruit and train additional staff while designing and implementing environmental monitoring and management systems will take some years, meanwhile the consequences of uncontrolled investment will mount for the environment and livelihoods, threatening a growing toll on food security. Problems may also arise should WREA attempts to impose its writ retroactively.

Poor land management presents an incomplete picture of land allocation and use, undermining the government’s ability to balance the interests of society in terms of fertile, healthy, clean land for producing food against those of industry.23 The government is not in a position to protect and restore food security in the wake of dams, mines or plantations because coordination among state agencies is underdeveloped and management capabilities for complex projects are insufficient. Prospects for outcomes positive for food security appear weak, given the capacity and nature of the state.

Structural change

The state is engineering structural change using the tool of big-push development. Natural resources traditionally treated as commons, like forests and rivers, are being enclosed by the process of issuing licences, upon request, to investors. Similarly, resources over which there is some degree of private ownership, primarily fields, are also being lost as land is transferred for dams, mines and plantations by the authority of the state. Such sacrifice is justified because it will generate revenues the state can use to alleviate poverty, including food insecurity, and develop the country through the provision of better services such as health and education plus infrastructure to support the economy, generating more employment and higher incomes. The state, however, appears ill-prepared to manage the volume of investment, obtain the best bargains, and efficiently use accruing revenues while insulating them from corruption.

Structural change under these conditions exhibits few signs of drastically reducing poverty and its associated food insecurity. There are indications of a transition from ‘old poverty’ (the consequence of a mix of factors such as

Table 1 Resource curse vulnerability assessment for Laos

<table>
<thead>
<tr>
<th>Criteria</th>
<th>State</th>
<th>Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good governance and transparency</td>
<td>Governance 21% (low) (World Bank)</td>
<td>Transparency 2 (low) (Transparency International)</td>
</tr>
<tr>
<td>Mitigation of environmental and social impacts</td>
<td>Government agencies lack the capacity and authority to measure, regulate, enforce and rectify</td>
<td>Few developers produce comprehensive assessments and implement effective mitigation</td>
</tr>
<tr>
<td>Quality investments</td>
<td>Government lacks the capacity to impose and judge quality; current focus appears to be on quantity of investment</td>
<td>Little is known about many developers because there are few effective requirements to provide information publicly</td>
</tr>
<tr>
<td>Management of resources to benefit future generations</td>
<td>There is little evidence that Laos is able even to manage resources for the benefit of today’s Laotians</td>
<td>Comprehensive and robust planning for the future in terms of sustainability and resilience is not being made public, if it exists</td>
</tr>
</tbody>
</table>

Adapted from Fullbrook (2010)

23 An indication of the evolving approach to land and agriculture was hinted at by Kham-ouan Boupha, president of the National Land Authority, who said agriculture would be given primacy over other projects on the fertile soils of the Bolaven Plateau (Vientiane Times 2008c).
farming marginal land with poor methods, remoteness, limited markets and high transaction costs) to ‘new poverty’ (inadequate skills and knowledge to compete effectively in labour markets, limited labour opportunities, wages vulnerable to food price inflation, dependence upon markets for food).

Attempting to engineer structural change on this scale so quickly through big-push development is threatening food security by removing fields, forests and rivers from food production at a time when global food production faces risks of supply troubles and higher prices. The peril of adverse domestic and international circumstances for food security in Laos is greater than it appears because of the increasing interaction between domestic and international trends, and between demand and markets for different resources requiring access to land such as food, materials, biofuels and perhaps bioplastics. There is however no indication of the growing complexity of food security finding reflection, yet, in policy in Laos.

Limited land, rising demand

Does it really matter that land is being put to use for purposes other than food in a country with a land area of 23.08 million ha in 2007 and a population of 6.32 million in 2009, or about 4 ha per person? Problems arise because everybody covets the best soils producing the highest yields leading to overlapping interests between food and industrial products like pulp and rubber. Mines must be sunk where the minerals are, regardless of what lies above or around. Dams create reservoirs that drown valleys regardless of what is in the way. Topography exacerbates the land squeeze. The country is mostly mountainous with 15.986 million ha of forest (not all pristine, much is secondary, or deforested, or used by households in swiddens or for forest foods). What remains is 2.129 million ha of agricultural land, including 1.170 million ha of arable land. While this might seem a substantial amount of land for the population, productivity underperforms in places because of low fertility or erratic water supply, with consequences for food production and food security.

Government attempts at land-use planning and zoning face significant challenges in the field from farmers and officials who appear more responsive to price than state edicts in determining what actually happens to the land. Rubber, much of it on smallholders’ land, already covers at least 1% of land area—and probably quite a lot more—or an area equivalent to 10% of agricultural land. The target for industrial plantations is 2.5% of land area. This may be a minimum given the developing nexus for forest cover, carbon programmes and global demand for renewable industrial resources like rubber, pulp, biofuels, and starch. The trend is indicated by reported concession permits which in total already exceed 5% of land area. Even if the footprint of plantations does not step on food-producing lands, their thirst for water can leave neighbouring farmers facing conditions akin to drought. Then there are the footprints of dams and mines to consider. There may be enough land to keep Laos properly fed and develop all its natural resources, but it is going to take very careful management, capacity for which does not currently exist.

Food production repressed

Big-push development, under ideal circumstances, might be the only solution to food insecurity and poverty in Laos if it is accepted that the topography, soils and ecologies of this mountainous country are unable to produce sufficient food to provide food security. Therefore development of resources is necessary to create jobs and incomes to allow people to buy their food security from markets supplied by a mix of locally-produced and imported food.

However the substantial volumes of food already being harvested from fields, forests and rivers is evidence that the country’s diverse ecologies can sustainably make a significant contribution to food security and sovereignty. Estimates for annual river fish catch, for example, range between 168,000 and 183,000 tonnes (Barlow et al. 2008, p18)25 worth at first sale $318 million to $346 million. This is a rich foundation. It could yield more with research to improve traditional and modern methods plus investment in irrigation and processing coupled with a concerted and comprehensive effort to protect, enhance and nurture the fields, forests and rivers for sustainable food production. This would strengthen food security and perhaps produce greater surpluses for export that would generate work and incomes. On the one hand this can be interpreted as a call to food self-sufficiency, autarky even. On the other hand, given global trends and the fraught outlook for agriculture and food that is influencing wealthy, but food-poor states to secure control of food production overseas, it is a precautionary defence of national food security. The opportunities here are not yet recognized in policy because the government believes the best prospects for raising revenues and tackling poverty and food insecurity lie with big-push development despite its risks for the environment and food production.

23 Barlow cites Van Zalinge et al. (2004) and Hortle et al. (2008)
24 These figures are calculated using the first sale value of $1,893 per tonne for migratory fish catches in the lower Mekong basin provided by Barlow et al. (2008 p17) citing Hortle et al. (2008)

Fraught outlook

Increasing exposure to global food prices, because some farmers are exporting more, while more people are pushed by big-push development into obtaining their food from markets offering a mix of local and imported food, presents a risk to social stability if the government lacks the tools and stocks to smooth out price fluctuations and food shortages. Plans to develop rice reserves are a step towards reducing this threat to food security, yet they appear far from adequate. Cash crops like sugar and coffee have historically been associated with wide price fluctuations, hardship, demands for land reform, revolt and civil conflict from central America to central Africa for a century (Messer and Cohen 2006, p22, 26-27).

An unlikely prospect for Laos, yet big-push development is already imposing strains on society. A poor man was killed for stealing rubber seedlings from a prosperous family in Luang Nam Tha province, northern Laos (Sithong and Thoumthone 2006, p117). Farmers have used guns to prevent Vietnamese from bulldozing their lands in southern Laos (Baird 2009, p32). Tight controls on the media and public debate thwart efforts to determine if these are isolated incidents or symptomatic of more widespread resistance and conflict. Inadequate resettlement plans for communities affected by the Nam Ngum dams could provoke local conflicts (Vattenfall 2008, p5, 17). Experiences elsewhere indicate that when minerals come to dominate an economy there is a sharp rise in the risk of conflict (Pegg 2006, p378). A substantial black market in military weapons encompasses Myanmar, Thailand and Cambodia which border Laos. Whether cross-border networks for trade, culture or kinship can connect disgruntled communities in Laos with arms dealers is the province of speculation.

Food, man and nature

Food security is a rising priority for the government, increasingly recognized in statements of concern, yet it remains a secondary priority compared to big-push development. The National Nutrition Policy seeks to promote and protect national food production and supply which amounts to food sovereignty even though this is not explicitly stated. Prime Minister Bouhavanh has stated that land must be protected to secure production of food. But this is not translating into effective control and management of investment and its impacts to protect food production. The paradigm is unable to adjust to take account of the realities and demands of securing food for society's overall well-being and security.


Wrapped up in this development paradigm is a presumption that Man is the master of Nature, able to breakdown and reassemble the parts without regard for systemic consequences that can reach far beyond the focus of activity, such as a dam for electricity, mines for gold, or plantations for rubber. The consequences could perhaps be ignored when for most of Man’s history resources, including environmental sinks, have, on a global scale at least, appeared inexhaustible. The material wealth yielded by this paradigm coupled with falling long-term food prices over the last half a century or so suggested an Age of Plenty, even the end of want. The apparent reluctance to subordinate big-push development to food security is then understandable because to do so calls into question the mastery of the state over the country’s environment and resources and indeed the narrative that Man is the master of Nature, a current that has run deep since at least the dawn of the Industrial Revolution, and the comfort of the Age of Plenty.

The government of Laos is following the well-worn path taken by many states to development and modernity from the United States to China. From the position of mastery, exploitation of the environment, without sufficient regard or appreciation of the consequences, makes sense. It is, however, ill-suited to the dawning Age of Scarcity in which many resources are approaching peaks of exploitation while environmental sinks no longer appear infinite. Perceptions and actions of the state, through its priorities, express a preference for exploiting the environment through big-push development in the expectation of a substantial pay-off down the road to mitigate the destruction and deliver an end to poverty and food insecurity. Risks to food security in this context are unlikely to fall and appease if anything likely to grow in the absence of a paradigm shift in values and perceptions of food and security.

Food as Security

For the many Laotians getting by on inadequate diets, food is a prime concern, taking up considerable time and resources. This preoccupation with the struggle for survival holds them back from making the most of their potential in personal endeavour and experience, for fully engaging with opportunities like education and leaving them less resilient to shocks that strike them individually and as a community. Their health and vitality and consequently that of society are inseparable from robust food security. Poor or widespread food insecurity, as is the case with Laos, makes for people who are weak and if they are weak then so is their society upon which rests national security that the state bears responsibility to ensure. The state then is failing in its duty to provide basic national security.
Close examination of development in Laos reveals some of the deeper challenges of values and perceptions that lie at the heart of food security. The cause of the negative consequences for food security of big-push development in Laos is the disparity between intentions, priorities and policies that are unable to reconcile a quest for development and revenue with the broader interests of society and the primary nature of food.

Food is a critical, but generally overlooked, element of national security, no less important than oil, steel or rubber. Hydrocarbon energy to power industry receives a great deal of attention. Countries build stockpiles, form alliances, and fight wars to ensure security of energy. The United States has an Energy Information Administration but no Food Information Administration. Food is treated as just another commodity ignoring its special significance as a source of energy powering humans and their societies upon which rest governments and states.

As Laos shows, where food comes second to big-push development, then damaging consequences mount for livelihoods and the environment that together produce food contributing to food security. This approach runs counter to the interests of society because of food’s centrality to security. Food is security, yet this is not recognized by prevailing values and the interests and the policies they beget, not only in Laos, but around the world.

Food as security requires a reappraisal of relationships with the environment and its bounty from which comes food. The paramount paradigm puts the environment in the service of Man through exploitation. It is for humanity to take and the environment to give, enslaving the environment. Such an approach applied to people is considered abhorrent and a war was even fought to bring about its end. An alternative paradigm would recognize that Man is a product of and indivisible from the environment and that to survive, to continue obtaining food and materials from ecosystems, will not be possible through exploitation but only through nurture.

Without fundamental change in the value and priority of food and environment in development and security planning, the risk of food insecurity will not diminish, putting at risk the well-being of hundreds of thousands if not millions of people in Laos. Enduring, sustainable food security is unlikely to be achieved in Laos and similar countries, and indeed the world, until values change to recognize its critical role in survival. Survival is ensured by security. Security must preserve and protect food to ensure survival. Survival depends upon food as security.

Food as security would shape, not prohibit, development around a precautionary approach. Resource extraction and development would proceed according to designs that do not compromise ecological diversity and environmental resilience for short-term gains narrowly conceived in dollars.

**Conclusion**

Food security is a complex socio-political condition borne of much more than cultivation and supply of food. It is an outcome of Man’s relationship with Nature and the value and perception of food in the security of society.

Food security in Laos is in a poor state. There has been little significant improvement despite economic growth. The government has indicated that food security is a growing concern and this is beginning to filter through into policy.

However, the primary over-riding focus of the state is big-push development, welcoming private investment to exploit the natural environment on a grand scale through dams, mines and plantations as a source of revenue to finance public-sector development to alleviate poverty and improve well-being.

The scale of investment exceeds the environmental protection and project-management capabilities and administrative systems of the state which is not in a position to permit so many complex projects and improve food security simultaneously.

Development of so many dams, mines and plantations in just a few years without adequate and effective environmental and social oversight and regulation is taking a heavy and growing toll on the livelihoods and environment which contribute to food security. There is reason to believe that food security could worsen because of the growing spectre of the resource curse.

The state is unable to broaden its perspective away from the narrow interests of big-push development to consider the holistic nature of food security. There is a substantial gap between intentions and capacity that does not augur well for food security. Structural change brought about by big-push development is breaking down the synergies of the environment to meet the demands of industrial production without taking account of the impacts on livelihoods and food production or the increasing complexity of demand for land for food, fuel and plastics. This reflects the deep presumptions of big-push development that exhibit a position that Man is free to dominate and exploit Nature as he sees fit instead of submitting to Nature’s limits and learning to work with Nature through nurture.

Food security will remain under threat and in doubt until it is recognized that food has an intrinsic, fundamental value to people and society as the source of life. Food is not just another commodity, but the most critical resource underpinning the well-being and strength of society and its security. Food must come first. Development can then proceed in a manner which does not undermine food production and with it the security of society and the state. Food security will only improve when values and perceptions adjust to reflect food as security.
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