

SOCIO-ECONOMIC CONDITIONS AND POVERTY ALLEVIATION IN NUSA TENGGARA TIMUR

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Nusa Tenggara Timur (NTT) (Map 1) is the poorest province in Indonesia, far from main centres of national activity and with an economy based on subsistence agriculture. NTT in 2004 was divided into 15 *kabupaten* and 194 *kecamatan* (Biro Pusat Statistik 2005). It had a total of 2,599 villages, each comprising 4-5 *dusun*. The province encapsulates major variations in culture between its different regions. Since poverty is concentrated in rural areas where most people live, poverty relief efforts must focus there.

This paper first reviews the economic, social, political, geographical and agricultural circumstances of NTT, concentrating on rural areas. It highlights key features in each sphere, and their implications for further development. It finally turns to poverty alleviation, discussing approaches to socio-economic improvement and how the latter might best be achieved.

THE ECONOMY AND RELATED ASPECTS

Nusa Tenggara Timur in 2003 had the smallest GDP of eastern Indonesian provinces except North Maluku (Table 1), and this situation persists. GDP grew at 5.1 per year over the two decades to 2003, and due to its base in agriculture was set back only slightly by the 1997 crisis. The GDP per head of Rp868.600 in 2003 (1993 prices) was by far the lowest in Indonesia, although its annual 4.2 per cent increase was higher than in any other eastern province. The GDP per head at current prices increased from Rp2.626.200 in 2003 to Rp3.235.700 in 2005 (Badan Pusat Statistik NTT 2007), but maintained its low position. The population was 4.1 million in 2004, having advanced at 1.6 per cent per year, or just above the Indonesian average, since 1980 (Table 1).

Structure

The NTT economy is dominated by agriculture, which accounted for 35 per cent of GDP in 2003 (Table 2) and almost entirely involved smallholders. Food crops grown mainly for subsistence were the chief component, followed by livestock for markets elsewhere in Indonesia. 'Non-food' crops, which include coconut and other tree and fruit crops, were more minor items. While the share of agriculture in provincial GDP

has declined, this sector has expanded annually at 3.2 per cent, with livestock growing quickest.

Agriculture is followed in importance by services, which were 26 per cent of GDP in 2003. Services have advanced faster than other sectors, and their share has risen substantially. Most services are from government, with 5-6 per cent being of private origin. Trade centering on agricultural crops follows services in importance. It comprised 14 per cent of GDP in 2003, and is again growing in share. Transport with 11 per cent of GDP is also expanding, while construction with 8 per cent varies in its share with economic conditions. The biggest single item of the latter is 'roads and bridges', followed by 'non-residential works'.

Fisheries with 3 per cent of GDP is small, although its products are significant in exports. Manufacturing is even less important with 2 per cent of GDP, but is advancing steadily. It concentrates on metal products, plastics, printing, and other items for the local market. It also includes the making by village ladies of *tenun ikat*. That is an important rural activity, and in some cases a major source of revenue. There is too a small and declining mining sector, involved with quarrying sand, marble and other items. There is no oil and gas in NTT, which plays no part in exploiting the Timor Sea reserves between Indonesia and Australia.

NTT is a typical remote economy dependent on primary production. Although insulated by subsistence farming, it is vulnerable to fluctuating prices of cattle, coffee, other tree products and fish. Efforts at improvement must necessarily focus on agriculture and associated aspects, and especially on improving yields and marketing. There are major potentials for this, as explored below.

Trade and Prices

Trade in NTT revolves around agriculture, and at the first level is concentrated around small regional and often periodic markets. These in turn are linked to markets in bigger centres like Atambua, Soe, Kefamenanu, Waingapu, Waikabubak, Maumere, Ende, Bajawa, Ruteng and Larantuka (Map 1). Goods going to and coming from these places pass through adjacent ports with connections to Surabaya, Makassar, Jakarta, and overseas venues. The ports of Tenau near Kupang, Atapupu near Atambua, and Ende in Flores handle most exports and imports of goods (Badan Pusat Statistik NTT 2007), while produce from or destined for Timor L'Este passes by road through Atambua.

The bigger markets sometimes involve further processing of items for final consumers. But most products exported from the province are barely modified after leaving the farm. Hence fat cattle are despatched live, so they may be slaughtered according to *halal* rites in Java and elsewhere. Coconut is largely consigned as copra, being brought to that state by on-farm drying. Much trade takes place within the province, as where rice from *kabupaten* Kupang or Belu goes to other destinations in West Timor. At the lowest level, and especially in remote locations, trade may be by barter, where small sellers exchange goods in kind. Kupang handles most non-agricultural trade, including that from the manufacturing sector.

Exports from NTT to foreign countries are exceedingly small. They totalled US\$17,401,972 in 2005 (Badan Pusat Statistik NTT 2007), where this was just below the average for the previous two decades. The major item in 2005 was mineral fuels and oil products going to Timor L'Este and amounting to US\$14,000,000. These were transhipped through West Timor from elsewhere in Indonesia. The other chief export destinations in 2005 were China, Japan and Australia, with exports comprising metals, metal articles, fish and other seafood.

The imports from foreign countries to NTT were far less than exports, and at US\$2,059,451 in 2005 (Badan Pusat Statistik NTT, 2005) under half the long-term average. They chiefly included manufactures from Japan, wheat from Australia, and rice from Vietnam. But these goods comprised a minor portion of the many consumer products traded in NTT in the mid-2000s. Indeed, a marked change observed by the authors since they first came to NTT in the late 1980s is the entry of products from elsewhere in Indonesia. Previously small and remote village kiosks mainly sold rice, kerosene, sugar, coffee, tea, candles and matches. By 2007 there were normally several hundred items, and sometimes a choice of brands.

Trade in NTT is generally competitive, and except in isolated places there are usually several separate dealers or players. Subject to taxes by local authorities, farm-level producer and consumer prices appear broadly fair. Considering onward transport and marketing charges, the price spread between points of production and points of consignment from NTT may be considered reasonable. It is still possible, however, to raise prices through local producer alliances and further processing, as argued below. There is difficulty in the domination of trade by persons of Chinese origin, and improvement can be secured by opening the field to others.

NTT has experienced price inflation along with all Indonesia, and the mean annual inflation in the early 2000s was 13 per cent (Biro Pusat Statistik 2006). But the rate is slowing, with the year-on-year figure in 2007 being just under 11 per cent (Badan

Pusat Statistic NTT 2007). But as in the national scene there are differences between constituent items. Transport cost rises are almost double the average, while education and health cost increases are well below it. Rice prices in Kupang are the highest in Indonesia, although meat prices are among the lowest.

Investment and Lending

Large Indonesian commercial groups have little interest in NTT (Table 3), and the only significant recent domestic investment was Rp133 billion in 2004 and 2005. Then a big shopping mall, an extension to the cement factory, and several office and housing ventures went ahead in Kupang. These developments could presage a more active future, however, where construction in Kupang appears to be active in 2007. Foreign investment has also been minor and sporadic (Table 3). Small local business investment in urban centres is quite substantial, however, and with lower annual bank interest rates of 15 to 20 per cent is expanding slowly but steadily (Bank NTT 2006). Formal banking is well established in major urban centres, and the Bank Rakyat Indonesia and Bank NTT operate in smaller market towns.

But investment in rural areas is minimal, under circumstances where entrepreneurs wanting to invest in small businesses must pay at least 5 per cent per month. These are circumstances where lenders face uncertainties over outcomes, under conditions of poor information, low skills, high administrative costs and doubts over repayment. The banks find they cannot operate profitably in the countryside, and rural finance is almost entirely confined to small private lenders, along with credit unions and microcredit agencies.

Private lenders restrict their investments to instances where they can minimize their problems. Chinese investors, for example, select accessible groups of local farmers and supply them with cattle for fattening. They collect and sell animals when they reach due weights, paying farmers a small proportion of the final price. They only do this in places where they can control the situation and raise their prospects of good returns. Other Chinese choose local fisherpeople, lending them boats and equipment, taking their catches, and paying them a share of the final return. Wealthy schoolteachers, officials and businesspersons with abilities to monitor ventures may also sponsor small enterprises.

Some credit unions secure capital from national coordinating agencies, lending it to local societies which support small enterprises, especially in Flores. The purpose of these partly voluntary organizations is social as well as commercial, and includes

associated training. All these approaches including those of private lenders have a minor impact, however.

Government Incomes and Expenditures

Total NTT government income in 2002 was Rp3.835.7 billion (Bappeda 2005 and Table 4), with over 80 per cent comprising transfers from the centre and highlighting the reliance of this poor province on outside help. The income is crucial to maintaining the province's administrative apparatus, and to promoting economic and social development.

Around 78 per cent of the government expenditure of Rp2.422.8 billion in 2002 was 'routine', directed to maintaining the various arms of government (Table 4). The balance of Rp538.5 billion was spent on 'development', being concentrated on transportation, government strengthening, trade, agriculture and forestry. There were smaller yet sizeable allocations in education, health, regional development and housing and settlement. This government development expenditure dwarfed commercial investment (Table 3) and much exceeded financial help from other agencies (Table 6). It is by far the most significant element in efforts to promote poverty alleviation and economic improvement in NTT. The nominal revenues and expenditures of government almost trebled between 2000 and 2001 (Badan Pusat Statistik 2005), increasing thereafter at 10 % per year.

Following *otonomi daerah* from 2001, patterns of official spending in NTT have been largely determined in the *kabupaten*, with many transfers being made direct to this level. Spending focuses vary, depending on socio-economic conditions and political circumstances. The authors broadly judge that decentralization in NTT has been beneficial, with local government initiatives today meeting requirements better than those under the central decisions of the New Order. But the benefits of this big change have been offset by corruption and inexperience, and there are short-term costs in hiring staff and building office facilities. The latter are again swelled by the frequent desire to establish new *kecamatan* and *desa*. Such higher costs are reflected in the sizeable 'government' expenditure in the category of 'development' in Table 4.

Other Financial Contributions

There is substantial spending by other agencies on NTT improvement in NTT. The money comes largely from overseas, and is reported by Bappeda NTT (2005). These other agencies comprise international and national non-government

organizations (NGOs), United Nations bodies, and foreign government entities. Their total contributions of Rp122.7 billion in 2004 are detailed in Table 6, where including other NGOs, Churches and credit unions for which no data are available raises the estimated total to over Rp160 billion. All agencies work largely in rural areas, undertaking small-scale developments in health, education, income-earning, and trade.

By far the biggest single contribution in this category is by international NGOs, amongst which World Vision and CARE International are most prominent. The United Nations bodies UNICEF and the UNFPA have smaller budgets, while the German agency GTZ and the Australian AusAID were important amongst foreign government entities. The 2004 expenditure levels are judged typical of those in the early 2000s, but comprehensive details of earlier years are not available. The total estimated expenditure by all these agencies in 1983-2008 was estimated to be Rp1.371 billion at 2004 prices (Bappeda NTT 2005), giving an average of Rp54.8 billion per year.

Population and Workforce

The density of 87 persons per km² in NTT in 2003 is low, reflecting vast areas of widely scattered villages where most people live. This density varies between *kabupaten*, ranging from 28 persons per km² in infertile East Sumba to 169 persons in Sikka (Map 1) with its productive volcanic soils. The average household in NTT contains 4.6 persons. This is the highest of any province in Indonesia, and had declined from 5.3 persons in 1990. These and other population and income statistics are from Badan Pusat Statistik NTT (2004, 2005 and 2007).

Almost half the NTT population of 4.2 million persons in 2004 had been 'working during the previous week', with 73 per cent of these being in 'agriculture, forestry and fisheries'. A further 11 per cent of workers were involved with 'trade, restaurants and hotels', and 7 per cent with 'public services'. Indeed, NTT in 2004 had 77 per cent of its working population classed as 'economically active', more than in any other province and above the Indonesian average of 67 per cent. The NTT situation reflects opportunities opened up by substantial land, and constant pressures to maintain basic subsistence. Wage rates in agriculture are low, and in 2007 are Rp7.000 – 8.000 per day in areas known by the authors. The biggest group of households in 2003 spent Rp100.000 - 200.000 per month, although the substantial group below this range reflected widespread poverty.

Many younger workers in NTT seek jobs elsewhere in Indonesia, as well as in Malaysia, Singapore and other overseas countries. This is particularly true of people from Flores, who mainly go to Sarawak and Sabah. The men work in plantations, construction, industry, and services such as restaurants and security. The women are usually domestic servants, including nannies and housekeepers. While people going to other parts of Indonesia may settle and never come back, those proceeding overseas normally stay for a limited series of periods, returning several times prior to their final homecoming.

Comprehensive statistics on migration are not available, partly because some persons going to Malaysia in particular do so illegally. But 170,000 individuals are recorded as having left NTT in 2000, with 106,000 returning (Badan Pusat Statistik NTT 2007). Both numbers leaving and the balance remaining outside the NTT have risen since 2000. Most migrants send remittances back to the province, and this generates substantial revenue. Further background on migration from Flores is given by Ida Bagoes Mantra (1998) and Williams (2002).

Infrastructures

Infrastructures and services outside chief municipalities are poor, despite steady improvements. The road system of NTT is amongst the worst in Indonesia, although the big highway from Kupang to Atambua on the border of Timor L'Este (Map 1) is well maintained. Interior roads are usually unsealed, irregularly serviced, and often impassable during the 3-4 months of rains. Indeed most locations off the Kupang-Atambua highway and a few other chief routes can only be accessed with a four-wheel drive or motor cycle, even in dry weather.

The chief ports excepting Kupang, Atapupu and Ende (Map 1) are barely developed, and even the biggest port of Kupang cannot properly handle containers although facilities are being constructed. These three ports along with Waingapu, Laruntuka in east Flores and Maumere in Sikka are nonetheless equipped to service passengers using inter-island ferries, of which there were 1,700,000 in 2005 (Badan Pusat Statistik NTT 2007). Ferry use is dropping, however, as lower air fares accompanying the entry of new airlines allow people to travel between the airports existing at most main centres.

As elsewhere in Indonesia, telecommunications in NTT have improved vastly with the arrival of mobile phones, and many repeater stations are being erected. These give telephonic access to most people in 2007, although few inhabitants of rural areas yet have mobiles. Electricity generation and supply have far to go, and in 2003

only 33 per cent of the province's 812,200 households including those in towns were connected (Badan Pusat Statistik NTT 2004). The city of Kupang and its environs consumed 40 per cent of all electricity produced, while uptake was especially low in Timor Tengah Selatan (TTS), Timor Tengah Utara (TTU) and Alor. Connecting electricity to a village does not mean all households access it, where the authors observe that only the 15-20 per cent of richer families do this. Others primarily rely on small lamps, comprising a wick dipped in kerosene. Although many villagers have bigger lamps with pumps, these are luxuries for special occasions.

The absence of water facilities is a major problem for those outside major centres. Hence in 2003 only 17 per cent of households, mainly those in towns, had piped water, while a further 27 percent had access to a nearby well. The remaining 56 per cent walked to the nearest spring or river which was often several kilometres away. This was especially during the late dry season when many wells dried up. Water availability is particularly difficult in the *kabupaten* of Belu, Kupang, TTS, TTU, and Lembata.

Education and Health Services

Over 79 per cent of the 806,000 school students in NTT in 2003 were at primary institutions, with the balance at junior and senior high schools (Badan Pusat Statistik NTT 2004). But 43 per cent of the 3 million persons aged 10 years and over in 2003 had either not attended or not completed primary school. A further 34 per cent had only completed primary school, while 21 per cent had finished high school and the balance of 2 per cent had attended tertiary institutions. This lack of schooling is reflected in the authors' experience in upland West Timor. Hence only 2-3 of the 15-20 persons in each small cooperative with which they work in that region can read and write, although a few others can work in capital letters.

Yet education is steadily improving, with local communities and government establishing new kindergartens, primary schools and high schools in many places. Rural situations are again far worse than those in towns, especially in certain districts. Thus 41 per cent of people in Sumba Barat in 2003 were illiterate, and this proportion is also high in TTS, TTU and *kabupaten* Kupang. An appraisal of primary schooling in NTT is presented by Daliyo, Philip Guest *et al.*(1999).

Health services are inferior, but again getting better. While each district has a general hospital and there are a few private and army hospitals, there was in 2003 a total of only 1,994 total beds for over 4 million people (Badan Pusat Statistik NTT 2004). There were 222 community health centres or *puskesmas*, 765 sub-

puskesmas and 139 mobile centres. Most main *puskesmas* had an attending doctor, albeit not always full-time. The authors observe that in rural areas sub-*puskesmas* are often short of drugs and understaffed, although personnel do their best. Finally, there were in 2003 6,951 integrated health posts or *posyandu*, catering especially for nursing mothers and children and sometimes numbering several in each village. These are run by trained *volunteers*, and have proved a most effective provider of services.

NTT has one of the highest incidences of illness in Indonesia. Hence in 2004, 37 per cent of people had experienced health problems over the previous month, compared with the national average of 27 per cent (Badan Pusat Statistik 2005). The proportion varied greatly between areas, with a high of 54 per cent in Manggarai comparing with only 17 per cent in Kupang. Life expectancy is low, and the provincial average is 57 years.

Health services in NTT may nonetheless be seen as advancing slowly under generally good management. This matches the comments of Mboi (1996) that 'trends in a number of critical fields are promising' (p. 189) despite 'daunting...complications of logistics' (p. 191). Indeed, the problems of remote places with poor access and manifold other difficulties are true of all development in NTT, and should always be recalled in discussions of improvement. Public infrastructures and services in NTT are very weak compared to those elsewhere in Indonesia, and appropriate measures to improve them are key parts of a poverty alleviation policy.

SOCIAL AND POLITICAL ASPECTS

NTT is one of the most ethnically pluralistic provinces of Indonesia. There are many ethnic groups, including two in West Timor, five on the islands of Sumba, Sabu, Alor, Roti, and Semau (Map 1), and eight on Flores. These groups originate from disparate parts of eastern Asia and the Pacific islands, having arrived in migrations over several thousand years. Most peoples are farmers, although people from Roti, Savu and Flores have done well in government and tend to dominate its affairs. There are also small groups of Chinese, including the 'black' or *hitam* variety who arrived centuries ago and were absorbed into local communities. Other Chinese who came in the early 20th century are traders in urban centres. There are too Bugis from Sulawesi, also active in trading and often maintaining their connections with places of origin.

Each ethnic group has a separate language (Ethnologue 2007), as where *Dawan* is spoken by the biggest group in NTT, the *Atoni* in *kabupaten* TTS and TTU. Again, *Tetun* is spoken by the people of *kabupaten* Belu along with many residents of Timor L'Este. People in eastern Sumba speak *Kambera*, while those on the southwest coast of that island employ *Anakalangu* and those in the western interior use *Wejewa*. *Manggarai* is spoken by a big group in western Flores, and *Riung* is the medium on the north coast of eastern Flores.

Often languages are similar but not mutually understandable, as where *Anakalangu* is 'close to but unintelligible to speakers of *Wejewa*' (Ethnologue 2007). Usually languages include many dialects comprehended by most in the language group. Hence *Manggarai* has 43 dialects, and *Tetun* has 19. Sometimes different languages are spoken in adjacent places, and the peoples of the area master both. This is true, for example, of the Helongese in north Semau and Rotinese in the south. Most people under 50-60 years in NTT are fluent in *bahasa Indonesia*, however, and this is the primary language of communication as well as that of interveners in socio-economic development. Yet because language is vital to understanding, using local dialects is highly advantageous for those from coming from outside to make improvements. A comprehensive atlas of the more than 40 languages in NTT was produced by Salzner (1960).

These ethnic and language differences are paralleled by those in societal and cultural behaviour. Yet the fundamental socio-cultural characteristics of NTT societies are basically similar, where traditional leadership is primarily defined by genealogical territory. First-comers to a location possess key land rights, while more recent arrivals have less entitlement. The social arrangements in each village revolve around kinship groups governing day-to-day affairs, and traditional life is regulated by natural law or *adat*. While the latter has lost influence owing to government and the Church, it is still significant. NTT societies were formerly stratified between aristocrats, commoners, and slaves, but such distinctions were chiefly lost in the 20th century, especially following Independence.

The principal kinship group of NTT communities is the clan, the head of which manages traditional activities along with older kinspersons. Each group has rites and procedures involving land, marriage, burial, inheritance, labour exchange, environmental management and other key functions, and it is here that social divergencies arise. While clans in a village or adjacent villages operate similarly, those in different regions are widely variant. Fox (1977), for instance, analyses societies on the islands of Sabu and Roti (Map 1), showing how life organized around ecologically balanced and stable farming systems involving *lontar* palm

compares with existence under the exploitative shifting cultivation arrangements of mainland Timor. Again, Vel (1994) deals with the different scene in Lawonda, North Sumba, scrutinizing the distinctive organization of activity surrounding the combination of shifting dryland cultivation and valley-bottom *padi* cultivation in that place.

All clans in NTT practice cooperation, where *kelompok* of 10-15 families are formed to undertake farming and household tasks. But the authors observe that the nature of cooperation varies considerably. Hence local clan members in *kecamatan* Kewapante (*kabupaten* Sikka) (Map 1) strongly emphasize combining in *kelompok* to undertake joint improvements. They always attend discussions of what is to be done, and an active community view prevails. In contrast, clan members in *kecamatan* Amanaban Selatan (*kabupaten* TTS) are less concerned with group aspects. While they still patronize *kelompok* meetings, these are dominated by a few persons who determine what is done. Finally, people in *kecamatan* Semau are even more individualistic, with only those directly concerned attending *kelompok* discussions of new initiatives and to quite an extent operating on their own account. The Semau people are the best informed of all, nearly everyone being literate and benefiting from closeness to Kupang (Map 1). Such differences in behaviour must be carefully recognized by interveners in community betterment.

Religion

The institutions and observances of the Roman Catholic Church have slowly penetrated NTT since Portuguese Dominicans first came to Solor island (Map 1) in 1561. Such expansion initially accompanied trade, being facilitated by sympathetic Dutch authorities from the 18th century. The Protestant or 'Christian' Church took longer to make widespread impacts, but advanced rapidly in the 20th century as the mainstream and Calvinist *Gereja Majilis Injili Timor* (GMIT) came to dominate southern West Timor and most islands except Flores and Solor. Pentecostal Protestantism has also spread quickly since the late 20th century, but is still not significant. Today, 55 per cent of people in NTT are Roman Catholic, 32 per cent Protestant and largely GMIT, and 9 per cent Muslim, with the balance being Buddhist and Hindu (Badan Pusat Statistik NTT 2004). The adherents of these faiths are swelled by the edict that all Indonesians must have a main religion, and a backlog of animistic beliefs continues as an influence on peoples' behaviour.

The Churches are a major element of life in NTT, and thousands of congregations put substantial personal resources into the big new buildings springing up throughout the province. The weekly services and other activities of *romo* and *pendeta* play

major roles in peoples' lives, and sometimes involve promoting socio-economic advances. Hence Churches run some 30 per cent of all schools, although in the last few decades increasing resources for these have come from government. Many development NGOs in NTT have religious connections, and the largest NGO of all, Wahana Visi Indonesia, is strongly Protestant. The religiosity of local communities certainly facilitates the work of such NGOs, while assisting their overseas fundraising. Webb (1986) appraises the role of the Churches in socio-economic development.

Politics and Government

Provincial, *kabupaten* and *kecamatan* politics and government in NTT have changed dramatically since the onset of democracy in the late 1990s, and of *otonomi daerah* in the early 2000s. As elsewhere in Indonesia, the centralized and autocratic system of the New Order has been chiefly dismantled, lessening the power of the centre and province, and increasing that of the *bupati* and his officials. In NTT's case, however, the change has not been as dramatic as in richer provinces, due to continuing high remittances from the centre (Table 4). Thus the provincial government is still important in formulating overall development policies and to some extent in transmitting initiatives from Jakarta. But the *bupati* in NTT is nowadays a key figure, especially since he usually heads the dominant party in the local legislature and is directly elected. He and his staff importantly determine the nature of government improvements in their districts, while other interveners including NGOs rely heavily on his approval and assent.

The activities of politicians, and especially those in parties dominating the legislatures, are also a major new influence on provincial and *kabupaten* affairs. Following both the 1999 and 2004 elections, the NTT provincial and local parliaments, as well as NTT representation nationally, have been dominated by Golkar and the PDIP. The former has secured slightly more votes, having a majority both provincially and in the *kabupaten* of West Timor. But the PDIP leads strongly in Flores. In some cases minor parties have effectively backed particular candidates as *bupati*, and can accordingly pursue special policies.

The government institutions at village level operate alongside traditional arrangements and the Church, and are usually the primary influence on affairs. Indeed, the standard formats of both government and the Church impose a uniformity on village affairs, in contrast with the more variable traditional structures. The government's *kepala desa* and *kepala dusun*, elected for 5 years along with *sekretaris* and *bendahara* and members of such bodies as the *lembaga*

pembangunan desa, tend to be the main decision-makers in village socio-economic activity. These officials also have connections with *kecamatan* and *kabupaten* superiors, hence securing new ideas about how affairs should be organized. The authors judge, however, that *desa* government complements rather than competes with traditional and religious elements, and the same leaders are sometimes involved in all spheres. *Desa* government is rarely connected with provincial politics, and officials are chosen on merit in relation to village issues. Non-government interveners in development must certainly work with these officials, and at the least secure their blessing for what is being promoted.

GEOGRAPHY AND AGRICULTURE

The geography of NTT entails extensive mountain spines and foothills in West Timor, Flores and other islands, making agriculture difficult and complicating the provision of infrastructures and services. Most areas are 'upland', although there are also extensive coastal plains. The seasonally dry climate is a key factor, with four months' relatively continuous rainfall in December to March and a long dry season in remaining months. Annual precipitation ranges from 1,000mm in *kabupaten* Belu to 4,000mm in *kabupaten* Manggarai, albeit with large fluctuations in each region and an increase between low and high altitudes. The fluctuation often causes disastrously low yields springing from too little or too much rainfall, with consequent food shortages like those in 2003, 2005 and 2006.

But soils in cultivated areas are often good, and given periodic fallows and organic farming can produce well in the wet season. The soils can also support excellent dry season crops where water is available. There are regions of particularly favourable soils and microclimates, such as the rice-growing plains of Belu, cocoa-planted hillsides of Sikka and Ngada, garlic areas of the Timor coast, cattle-fattening locations in Kupang and elsewhere, and vegetable and citrus localities in upland West Timor. Details of the geography and environment of Timor are provided in the classic book of Ormeling (1956), as well as by Monk, de Freitas and Reksodihardjo-Lilley (1997).

Agriculture

The agriculture of NTT included 600,000 ha under annual crops in 2003 (Table 7), most of which was devoted to subsistence production. Maize is cultivated by nearly all farmers, and is the staple food occupying the largest single area. Next in importance come wetland rice, cassava and dryland *padi*, which are also staples. Rice has gained significance as a food over recent years, and cassava is a backstop

during low rainfall. Other food crops take in dry-season vegetables, which grow well in much of NTT. All items are sold for cash once domestic food and other needs are met. The areas of all crops vary little from year to year, and are judged to be almost the same in 2007 as in 2003.

Tree crops covered a further 600,000 ha in 2003 (Table 7), and especially comprise coconut, cashew nut, candlenut and coffee, with coconut being partly for subsistence including cooking oil, and with the produce of other trees being for sale. The average yields per hectare of all food and tree crops are low (Table 7), and there is great potential for enhanced production. This should certainly be tackled in long-term development projects, and is a key enabler in improvement. Forestry in NTT occupied an extensive 1,800,000 ha in 2003, but is mainly for conservation with sparse growth in the dry climate.

Livestock are additionally significant (Table 7), with cattle, pigs, goats and poultry being widespread. The cattle are farmed for cash, and 25-30,000 fattened animals are consigned live to Java and elsewhere each year. Other livestock are partly kept for domestic purposes. Here, too, production efficiency is low, and there are major potentials for advance. In much of NTT, annual and tree crops along with livestock are produced side by side in integrated *ladang*, raising household returns through complementary effects and also providing ecological stability. A fascinating account of this integrated system in *kabupaten* Sikka is provided by Metzner (1982).

Virtually all agriculture in NTT is based on owner-occupied farms, each covering a few hectares with additional access to common pasture. Big enterprises occupying larger areas are very rare, with traditional tenure meaning there is little opportunity for expansion of such units. But in the authors' view, most production improvements can be realized within the framework of small farms, given adequate extension.

Many crops are sold in local periodic markets often hard to access. Barter is common and farmers may, for instance, exchange corn for chickens or *vice versa*. But key cash crops including rice, copra, cashew nut, coffee, cocoa, tamarind and cattle each have specialized marketing facilities. While competitive pricing often prevails, the potentials for raising producers' market returns are a concern for developers.

IMPROVEMENT AND POVERTY ALLEVIATION

The GDP per head in NTT in 2003 varied greatly between jurisdictions, with that in Kupang and several other towns being over three times the average for *kabupaten*

elsewhere (Table 8). It was especially low in *kabupaten* with a high share of population 'in poverty', defined as entailing an average monthly income per household below Rp100.000. These poor *kabupaten* included Sumba Barat, Kupang, TTS and TTU, Lembata and Manggarai (Map 1), with a combined population of 2.2 million or over half the provincial total. Their weighted average proportion of population in poverty was 35 per cent. They are mostly remote and highly dependent on subsistence activities. They are certainly areas to emphasize in poverty alleviation, although there are numerous difficult locations elsewhere. Indeed, the analyses of provincial infrastructures, health, education and other aspects of welfare paint a picture of an economically backward region in the highly diverse social and cultural setting.

Possibilities of Improvement

There are basically two routes to improvement and poverty alleviation in rural NTT. One is the betterment of infrastructures and services, and the other is the introduction of improved production and marketing. These routes need to be followed in parallel, since they are complementary. They should be undertaken in economically appropriate ways, meaning they give the best returns to those involved and are sustainable. They should likewise be socially pertinent to communities, relating effectively to local cultures and institutions and stimulating people to participate in change. The routes should if possible be implemented so their impact is distributed widely, both to maximize spread effects and achieve greater equity. These desirable features are easy to state, but hard to implement. Indeed the chequered history of efforts to secure higher living standards in NTT and elsewhere (Barlow and Gondowarsito 2006) is ample testament to the complex task at hand. On the other hand, there are numerous possibilities of improvement in the province, which if properly executed will greatly benefit local populations.

The betterment of infrastructures in roads, ports, electricity supplies, telecommunications, and more elaborate water supplies is a specialist task needing professional attention. Each segment of such development must usually be done on a reasonable scale, so to secure adequate economies. There is accordingly, in NTT as elsewhere, a feature of 'lumpiness' where a minimum package of improvement must be executed in each situation. This produces a choice problem in allocating scarce staff and funds amongst many needs, in the presence of diverse political pressures. Dealing with this is hard, leading sometimes to decisions with less than optimal outcomes. As one example, the official controlling rural road development in TTS, the *kabupaten* with the worst communications of the province, told the authors he could only apply his upgrade package costing Rp50-60 million per km to 100-120

km of road a year. This was under circumstances where 2,000-3,000 km of roads needed major repair. He had in practice to choose 3 from 70 possibilities of roughly equal merit. Similar problems arise with other infrastructures.

The improvement of education and health presents parallel choice problems. Thus although available school teachers can in general be distributed evenly according to needs, there are difficulties over school buildings and contents. Hence thousands of NTT primary schools with deficient classrooms, furniture, toilets, wells and other facilities would benefit hugely from some upgrading. But in practice this is only undertaken in relatively few schools, where packages of funds are released for complete reconstruction and refurbishing. Comparable circumstances apply to enhancing health amenities. In contrast, improvements to smaller items like wells, water tanks and water reticulation schemes are not so subject to lumpiness. Since less money is involved each time, they lend themselves to wider distribution amongst those needing benefits.

With all infrastructures and services it is most advantageous to enlist community participation. Initiatives are thereby made more appropriate to circumstances, while local help is enlisted in implementation. Costs are reduced and long-run sustainability enhanced. But such participation necessarily varies according to circumstances, in that 'big' 'specialized' facilities normally entail less involvement than smaller thrusts more easily open to community help.

Improved production and marketing

Enhancing production involves securing better yields from subsistence and cash crops and livestock, where there are numerous possibilities. Thus outputs of subsistence maize and root crops, and cash-earning cattle, coconut, cashew and cocoa and other tree products can be lifted with appropriate technology. Again, improving marketing entails quality augmentation through better processing, and joint selling through the combination of several producers. These production and marketing changes can impact greatly on both farm and provincial revenues.

But because these improvements once more involve deploying extension, training and technical staff, there are further lumpiness and choice problems. While numerous locations and communities can potentially provide good returns on investment in new initiatives, not all can be included. Only some places can be targeted, whilst others are neglected.

All production and marketing improvements are likewise advantageously undertaken through small cooperatives or *kelompok*. Each includes 10-15 persons, who themselves manage and operate new activities under the guidance of an extension officer and other interveners. This mode of community interaction and operation itself secures economies of scale. It has been shown as well to lead to sustainability and wider impacts, where improvement thrusts become self-sufficient after a period and allow extension staff to move to new groups.

Actual Development Approaches

These have evolved substantially over recent decades, as government and other interveners have found how better to assist rural households through the routes just cited. In general, growing emphasis has been placed on community interactions, involving training, consultation and participation. At the same time, the volume of resources available for development has increased, while the quality and experience of staff in government institutions have greatly improved. More organizations have entered the development field, as denoted in Table 6. Finally, the change to *otonomi daerah* from 2000 has enabled interesting experiments in improvement by particular *Dinas kabupaten*. This has sometimes led to effective new means of intervention, replicable on a wider scale. Despite the greater resources, however, these are still grossly inadequate for the tasks at hand.

The various interveners in NTT development in the late 2000s may be seen to have assumed distinct roles. Thus government with the biggest resources (Tables 4 and 6) is the most important player. It is best equipped to supply hard infrastructures, as well as to provide education and health facilities and services. It is also well placed to assist some aspects of improved production and marketing. These especially include promoting agricultural and technological research through a chain of *Balai* under the control of *Litbang Pertanian* in Jakarta, and supplying high-level technical staff from the local *Dinas Pertanian*. The government has also done well in promoting handicraft industries through the *Dinas Perindustrian*. Yet it is still not effective in general agricultural extension, partly because its resources are insufficient to finance the necessary deployment of officers.

But national and international NGOs have recently assumed useful roles in extension and training, while credit unions have begun to make some impacts on finance. The substantial financial commitment of NGOs (Table 6) and their ability to work effectively with communities have enabled them to sponsor many successful small improvements. The United Nations bodies and other international government entities with lesser funding (Table 6) have contributed in specialist spheres, ranging

from work on particular infrastructures to initiatives in education and health. These are spheres where their expertise can back up existing programs of the NTT government.

Examples

A few examples bring to life the contributions and adjustments to reality of these diverse interveners in development. Thus education in NTT is largely in the hands of the government's *Dinas P & K* at *kabupaten* and *kecamatan* levels. These agencies work with the Churches in managing the primary and secondary schools catering for over 800,000 children throughout the province. The *Dinas* are basically responsible for both constructing and maintaining infrastructures and arranging teaching, where the latter follows a national *curriculum*.

There are as indicated often differences between *Dinas*, however, due to divergent approaches of *bupati* and other local factors. Thus while the choice difficulty flowing from minimum packages in school improvement is widespread, some *Dinas* have been able to partly overcome this. They have allocated smaller funds to more limited endeavours, harnessing community participation in undertaking improvements. With repairs to single classrooms, for instance, parents from the *komite sekolah* have themselves been encouraged to undertake the work, using cement and other materials purchased by the school. Parents have also been responsible for constructing complete new schools, getting limited help with this but also committing substantial resources of their own. Again, certain *Dinas* have promoted more imaginative approaches in teaching, building constructively on the curriculum handed down from Jakarta.

In another sphere the NGO Wahana Visi Indonesia with its major financial outlay (Table 6) engages in many production and marketing improvements, doing this through its decentralized 'area development groups' of some 20 staff. In one suitable region for vegetable growing, for instance, it has successfully introduced high-quality vegetables grown with animal compost, with these being subsequently sold through a producers' marketing group in a neighbouring municipality (Wahana Visi Indonesia 2002). This venture involved several years of preliminary training and extensive extension accompanied by some credit, and was based on active participation by local players. It is now a successful commercial proposition, financing its ongoing activities from private sources.

Finally, the *Kecamatan* Development Program, a joint initiative of the World Bank and Indonesian government, works in several *kecamatan* of NTT (Indonesian

Kecamatan Development Program 2007). It finances small village infrastructures, particularly including rural roads, water supply facilities and educational and health buildings. It cooperates with other official bodies, emphasizing consultation with and active support from local villagers through a group meeting or *musyawarah* process. Its small program in NTT (Table 6) has tackled improvements too restricted for regular government agencies, again allowing small packages of improvement to be implemented more equitably.

Not all such initiatives are fully successful, and many problems are encountered along the way. But they and other similar efforts represent a more flexible approach to improvement. This approach has been adopted in light of experience, and has been facilitated by new agencies bringing fresh appraisals to the problems of development.

Conclusions

The poor province of Nusa Tenggara Timur has grown slowly over recent decades, and has good potentials for further advance. Yet its basic infrastructures and education and health facilities are inferior, leading to high transport costs, widespread illiteracy and major sickness. The economy of NTT is still dominated by agriculture, followed by government services and trade. The province is a classic case of remoteness, with consequent difficulties of both socio-economic improvement and integration into the wider national economy. It is ethnically and culturally diverse, with many different groups and local languages.

Government activity in the province is still largely dependent on finance from the centre, and there is little interest from outside investors. But NGOs and various foreign agencies have supplied increasing assistance during the last decade. NTT like other parts of Indonesia has been greatly influenced by the onset of democracy and *otonomi daerah*, and these have imparted new vigour into the conduct of local affairs.

The twin routes to economic and social advance are seen as lying in bettering infrastructures and services and improving agricultural production and marketing. Unfortunately, however, limited resources for development along with difficulties in mounting improvement packages below a certain size mean progress can only be slow. There are, however, ways of introducing more flexibility into change, so as to augment the rate of advance and in doing that to attract further investment. All agencies involved in NTT development have found greater community involvement to be effective, and this has become commoner in recent years.

The chief architect and implementer of NTT development is necessarily the government, which has most resources at its command. This appropriately has the main role in providing infrastructures and services. International and local NGOs have made useful additional contributions in production and marketing improvement, however, while UN bodies and other foreign agencies have assisted in specialist spheres.

Looking to the future, there is clear need to commit more resources to development in NTT, especially in poorer *kabupaten* including over half the population. Manifestly, infrastructures along with education and health services require far more help, partly from the government but also through enlisting more aid from foreign sources. Production and marketing too need much more assistance, where NGOs working with credit agencies can be called on to expand their already useful programs.

Given proper management of changes and appropriate coordination by the government, excellent socio-economic returns on expenditures in improvement can be anticipated. The many ethnic groups of NTT contain robust peoples able to respond vigorously to appropriate changes. Such changes can ultimately result in converting this remote and backward province into one of the more progressive regions of Indonesia.

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TABLE 1. Gross Domestic Product^a and Population, NTT and Selected Parts of Indonesia, 2003

	GDP (Rp'000.000) (1993 prices)	Av. GDP/ Head (Rp'000)		Population (‘000,000 Persons)
		Current Prices	1993 Prices	
NTT	3.480.9 (5.1) ^b	2.626.2	868.6 (4.2) ^c	4.1 (1.6) ^d
Nusa Tenggara Barat	5.104.3(5.3)	3.959.2	1.208.3 (1.3)	4.3 (1.8)
North Maluku	918.6 (2.2)	2.776.4	1.238.0 (2.6)	0.8 (2.0)
Maluku	1.361.6(1.7)	3.099.2	1.167.7 (3.4)	1.2 (1.8)
Papua	9.179.8(3.2)	11.818.5	3.776.8 (-0.2)	2.4 (3.0)
Bali	8.314.5(3.3)	8.172.7	2.541.9 (2.4)	3.3 (1.2)
Indonesia	412.696.7(3.0)	7.942.7	2.130.6 (2.8)	217.8(1.6)

Sources: Badan Pusat Statistik Nusa Tenggara Timur (2004); Biro Pusat Statistik (2005).

Notes: a. Including oil and gas.

- b. Figures in parentheses in this column are average annual GDP growth rates, 2000-2003, for all provinces except NTT. For the latter, they are the rate in 1980-2003.
- c. Figures in parentheses in this column are average annual GDP/head growth rates, 2000-2003.
- d. Figures in parentheses in this column are average annual population growth rates, 1980-2004, for all provinces except North Maluku. For the latter, they are for 2000-2004.

TABLE 2. Composition of Gross Domestic Product, NTT, 1993 and 2003 (% of total)

	Agric- culture	Food Crops ^b	Non-food Crops ^a	Live- stock ^a	Forestry ^a	Fisheries ^a	Mining
1993	40.4	22.3	4.2	9.5	1.0	3.5	1.9
2003	34.8 (3.2) ^b	18.8 (3.3)	3.8 (3.6)	8.6 (4.0)	0.4 (0.8)	3.2 (3.7)	1.1 (1.9)
	Manu- facture	Power & Water	Construct -ion	Trade	Trans- port	Banking & Business	Serv- ices
1993	2.4	1.6	8.0	12.4	9.1	4.4	19.8
2003	2.3 (4.4)	1.0 (7.5)	5.8 (2.0)	14.3 (6.5)	10.9 (7.0)	3.8 (3.8)	26.0 (8.0)

Sources: Badan Pusat Statistik Nusa Tenggara Timur (2004).

Notes: a. Subsectors of Agriculture.

b. Figures in parentheses are average annual growth rates of GDP, 1993-2003 (1993 prices).

TABLE 3. Domestic and Foreign Investment in NTT

	1997	1998	1999	2000	2001	2002	2003	2004	2005
Domestic (Rp mill)	-	-	-	-	-	-	-	114.300	19.000
Foreign (US\$ mill)	1.8	-	-	6.1	5.3	-	-	2.4	1.5 ^a

a. About Rp13.500 million.

Source: Department of Finance 2006

TABLE 4. The NTT Government Budget, 2002 (Rp million)

Total Revenue	Rp3.835.755
Transfer from the 2001 budget	Rp714.627
Revenue derived from NTT	Rp223.980
Transfers from the centre ^a	Rp2.833.603
Other Official Revenue ^b	Rp63.545
Total Expenditure	Rp2.422.870
Routine expenditure	Rp1.890.276
Development expenditure	Rp538.593
Industry	Rp6.602
Agriculture and forestry	Rp52.447
Trade	Rp76.321
Transportation	Rp116.777
Regional Development	Rp30.590
Education	Rp36.629
Health	Rp34.484
Housing and Settlement	Rp32.807
Government	Rp77.412
Other ^c	Rp74.524

a. Almost all *Dana Alokasi Umum*.

b. A mix of central and provincial sources.

c. Irrigation, Labour, Mining and Energy, Tourism, Environment, Family Planning, Religion, Technology, Law, Politics and Security.

Source: Bappeda NTT 2006.

TABLE 5. NTT Government Budget Totals, 2000-1 (Rp million)

Year	Revenue	Expenditure		
		Routine	Development	Total
2000	801.268	485.356	275.653	761.009
2001	2.215.809	1.325.974	668.976	1.994.950
2002	2.575.654	1.547.503	743.882	2.291.385
2003	2.985.200	2.100.120	885.080	2.985.200

Source: Badan Pusat Statistik (2005).

TABLE 6. Expenditures by Other Agencies in NTT, 2004 (Rp million)

Agency	Annual Expenditure
International NGOs^a	
Wahana Visi Indonesia	Rp55.000
Care International	18.250
Catholic Relief Service	8.828
CCF Indonesia	8.645
Oxfam Great Britain	4.300
Global Fund	2.249
Sub-Total	Rp97.272
Local NGOs^a	
Alfa Omega	Rp607
Increase	82
Sub-total	Rp689
United Nations Bodies	
UNFPA ^b	Rp3.000
UNICEF ^b	1.869
UNHCR ^b	750
ILO ^b	400
Sub-total	Rp6.019
International Government Entities	
GTZ ^b Health	Rp6.300
GTZ Water	3.000
AusAID ^b Schools	6.234
AusAID Access	898
PIDRA ^b	1.344
World Bank ^c	960
Sub-total	Rp18.736
Grand Total All Agencies	Rp122.716

a. Excluding some prominent international NGOs, notably Plan International and Swiss Contact, all small international NGOs, many local NGOs, Churches and

credit unions. The contributions of these agencies would add at least Rp40 billion to the total.

- b. These are respectively the United Nations Family Planning Association (UNFPA), the United Nations Childrens' Fund (UNICEF), the United Nations High Commission for Refugees (UNHCR), the International Labour Organization (ILO), the Gesellschaft fur Technische Zusammenarbeit (GTZ) (from Germany), the Australian Agency for International Development (AusAID), and the Programme for Integrated Development of Rainfed Areas (PIDRA) (largely financed by the International Fund for Agricultural Development).
- c. Mainly for the *Kecamatan* Development Program.

Source: Bappeda NTT (2005).

TABLE 7. Crop and Livestock Statistics, NTT, 2003

	Wetland Rice	Dryland Rice	Maize	Cassava	Green Peas	Peanuts	Sweet Potatoes
Harv. Area ('000 ha)	118.0	58.4	257.7	80.3	24.6	13.0	10.9
Yield/ha ^a (tonnes)	3.3	2.1	2.3	10.7	0.8	1.0	7.8
	Other Food Crops ^b	Total Food Crops	Coco-nut	Cashew Nut	Candle-nut	Coffee	Fruit Trees
Harv. Area ('000 ha)	9.0	571.9	163.7	153.2	85.0	68.0	44.2
Yield/ha ^a (tonnes)	-	-	0.55	0.39	0.53	0.49	-
	Areca Nut	Cocoa	Kapok	Cloves	Other Tree Crops ^c	Total Tree Crops	Forestry
Harv. Area ('000 ha)	38.2	37.2	31.8	11.4	3.3	636.0 ^d	1,809.0
Yield/ha (tonnes)	0.35	0.71	0.28	0.36	-	-	n.a.
	Cattle	Pigs	Goats	Buffalo	Horses	Sheep	Poultry & Ducks
Number ('000)	513	1.225	435	135	95	56	10.648
Number slaughtered ('000)	26	98	35	4	-	5	n.a.

Sources: Badan Pusat Statistik NTT (2004)..

Notes: a. Of the area in production.

b. Soybeans and Sorghum.

c. Vanilla, Nutmeg, Castor Oil and Pepper.

d. Excluding a large area of Tamarind, of which details are not available.

TABLE 8. GDP per head, Population, and Extent of Poverty by District, NTT, 2003

District/ <i>Kabupaten</i>	Av. GDP/ Head ^a (Rp'000)	Population ('000 persons)	Share of Population in Poverty (%) ^b
Sumba Barat	1.487.2	383.2	44
Sumba Timur	2.411.1	195.3	12
Kupang	1.785.5	430.2	35
Timor Tengah Selatan	1.682.6	395.7	37
Timor Tengah Utara	1.807.5	201.2	30
Belu	1.883.4	334.4	21
Alor	2.078.8	165.6	28
Lembata	1.485.5	96.6	33
Flores Timur	2.370.9	213.6	16
Sikka	2.150.2	274.5	20
Ende	2.372.3	236.6	22
Ngada	2.237.9	237/2	15
Manggarai	1.571.7	653.3	33
Manggarai Barat	1.942.9	- ^c	30
Rote Ndao	2.074.7	- ^d	29
Kota Kupang	6.373.9	255.5	11
Total	2.248.3	4,073.2	29

Sources: Badan Pusat Statistik NTT (2004).

Notes: a. At current prices.

b. Persons with incomes below about Rp100.000 per head per month (2003 prices).

c. Included in Manggarai.

d. Included in *kabupaten* Kupang.