

Addressing population pressures on the environment of Samoa

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Introduction

Samoa's environmental issues and concerns mirror global trends. Increased expectations and demand for economic growth from Samoa's growing population compete for available goods and services. The increase in population therefore has a direct impact on the sustainability of the natural environment, national infrastructure and social services like education and health.

The approved national environment and development management strategies¹ (NEMS) established twelve target components as priority environmental concerns. Work has progressed well in the development of policies on four of these components, namely waste management, water, land use, and population. For the population component, the need for a policy was driven by the following observations:

Demand for resources

Increased demand on limited natural resources has exerted pressure on food, water and land. For instance, the urban drift of population into the capital of Apia has stretched the limited urban facilities and employment opportunities². As well, a high demand for private residential land has resulted in the reclamation of environmentally sensitive areas such as mangrove swamps and other wetlands.

Demand for services

There is increased demand for services in the health, education, transport, energy and telecommunication sectors. Improved education with greater population mobility has created higher expectation for more and better public services:

Forest clearance

Large areas of indigenous forests have been cleared beyond sustainable limits, most of which are on marginal steep lands. An average of about 1,500 hectares of forests is cleared every year in Samoa. 20% is attributed to logging, the rest for agricultural and residential needs³.

Local development

There is increased pollution due to ill-planned local development. Without planning legislation activities in industry and agriculture are affecting Samoa's amenity and quality of life;

Waste generation

The waste of modern consumer lifestyles is evident everywhere⁴. Plastics, metals and special wastes are a threat to the natural environment and public health. For the Apia urban area, a generation rate of 0.5 kg/person/day has been recorded for a population of 45,000. This is estimated to be about 40% of the total waste generated⁵. A growing population is the main factor for higher waste accumulation, as more people would generate more waste.

Global development

The impact of global development is a matter of local concern as more people and industries emit more greenhouse gasses⁶. Changes in climate and weather patterns as a result of global warming are suspected as the main cause of the increased frequency and severity of tropical cyclones,

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This paper sets out an overview of Samoa's efforts to address issues pertaining to pressures exerted by an increasing population on the environment. It describes the main factors affecting the national population and the policy context as identified. A summary of the process to formulate a national population policy provides an insight into the scope, approach and implementation of the policy formulation process.

Population characteristics

Samoa's total population in the last census year, 1991, was 161,298. This year, 2000, the total is estimated to be 170,727⁷. Since 1902 the population has increased about five-fold from 32,612⁸. But as shown in Table 1 the trend in annual population growth rate dropped from an average of 3.3% in 1961 to 0.5 per cent in 1991. These figures reflect a change in national population growth from one of the highest in the world to among the lowest, within 30 years.

The main demographic parameters that need to be considered in the formulation of a population policy include: fertility, age distribution, dependency ratio, migration, crude birth rate, crude death rate and growth rate. These characteristics are important determinants of the growth and distribution of people as well as the sustainable level of population that the available natural resources can support.

Year	Population	Annual growth (%)
1961	114427	3.3
1966	131377	2.9
1971	146627	2.2
1976	151983	0.7
1981	156349	0.6
1986	157158	0.1
1991	161298	0.5

Table 1: National population growth, 1961 – 1991.
Source: Department of Statistics

Age	Total	Share (%)
0-14	65469	40.59
15-64	89481	55.48
65+	6348	3.93
Total	161298	100.00

Table 2: Population age structure, 1991. Source: Department of Statistics

Year	Child dependency	Adult dependency
1971	107	6
1981	84	6
1991	73	7

Table 3: Dependency ratios, 1971-1991 Source: Department of Statistics

Fertility

The fertility rate indicates the total number of children born to a woman in her childbearing years. According to the 1991 census, Samoa's fertility rate was 4.8, a slight decrease from 5.2

in 1986. But with a high proportion of young people in the current population, the fertility rate will continue to be a major issue for Samoa in the long-term.

Age distribution

Although life expectancy in Samoa continues to improve, the broad-based age distribution structure has not changed significantly in the last thirty years. Table 2 shows that in 1991, 40% of the population was in the 0-14 year age group. This not only puts a burden on those who have to feed, clothe and educate that age group, but also on natural resources on which domestic production is based. It could also mean increased population growth rates in the medium-term unless measures are taken to decrease the fertility rate.

Dependency ratio

Another important parameter is the dependency ratio, used as an international measure of economic growth potential. Those in the age group 0-14 years and 65 years and over are considered dependent while those in the 15-65 year age group are considered productive.

Developed countries strive for a ratio of about 40 dependents to 1000 persons in their productive years. As shown in Table 3, the total dependency ratio for Samoa was 80 per 1000 in 1991. A high dependency ratio would indicate that resources were being allocated for consumption instead of investment.

Migration

This is the greatest single factor that is likely to impact greatly upon the growth rate of Samoa in the short - to medium-term. In 1991 the low growth rate of 0.5% (see Table 1) is the result of a high migration rate, which has offset the high birth rate of 29.8 per 1000. But if the safety valve of emigration is closed, the 1986 population figures for Samoa could double by the year 2021.

Crude birth and death rates

According to the 1991 census 4,816 were counted at age zero, representing the number of live births in that year. For the total population of 161,298 the birth rate was 29.8 per 1000 while the death rate was 7.2 per 1000. The rate of natural increase is therefore 22.6 per 1000. However, this is not reflected in the growth rate because of the high net emigration rate, cancelling out the large gap between the crude birth and crude death rates.

Population growth rate

The 1991 international migration figures showed an emigration rate of 28.8 per 1000. Thus the growth rate for the same year was very small despite the stable birth and death rates. It would seem that Samoa's population is more sensitive to the overall growth increase rather than the growth rate. Even if the growth rate is low, there are still people being added to the population every year, so that the base of the population continues to grow while resources such as land remain the same.

Institutional setup for policy development

The first ad-hoc committee to look at population as a planning issue was formed in 1991. Work of this committee was constrained by the difficulties in finding a department that was most suitable to be assigned responsibility for policy development. While the Health

Department had always assumed responsibility for population the committee saw population as much more than a health issue. Other Departments with planning functions such as the Prime Minister's, Treasury and Lands, Surveys and Environment were considered but all refused to take on that responsibility. In fact the ad-hoc committee even tried to push a policy paper to Cabinet through the Planning Section of the Public Works Department. But the Minister of Works who initially signed the Cabinet submission later withdrew it, as he did not see the relevance of population to his portfolio.

In 1993, the NEMS established a framework for national environment and development management, which Cabinet endorsed in 1994. As discussed above four target environmental components were identified as priority areas needing immediate policy instruments.

After the return of Samoa's national delegation to the 1994 International Conference on Population in Cairo, the urgent need for a population policy was again raised. Cabinet then directed the formation of a National Population Policy Council (NPPC) to put together a population policy, with the Health Department as coordinator. The NPPC then took over responsibility for the population policy formulation, but still under the umbrella of NEMS. Lack of funding, however, constrained the NPPC's policy tasks and was not until mid-1996 that a final draft was produced.

Policy formulation process

From the outset it was clear that the formulation of a national population policy must involve all relevant sectors and stakeholders, as already proposed in the NEMS. The NEMS set out a policy outline for population and drew attention to three main issues of concern to Samoa if the national population was allowed to grow. These were reiterated in the draft policy as:

- Limited land resources;
- Depletion of other natural resources; and
- Strain on existing economic and social infrastructure.

In addition the NPPC considered other issues that were considered pertinent to the successful implementation of a policy of this type and scope. These included issues such as lack of public awareness of population issues, institutional framework for inter-sectoral cooperation and collaboration, migration and family planning. Demographic parameters were also important as these were considered to be the triggers of population growth.

The approach adopted for policy formulation reflected the need to enhance and strengthen capacity within local institutions and to build up policy development skills at the national level. Thus, rather than engaging consultants to prepare the policy, a drafting committee within the NPPC was established to take up the task, in consultation with representatives from across all sectors.

Policy formulation involved the seeking of views from all stakeholders whose work, functions and responsibilities were relevant to population and human resources generally. This was reflected in the membership of the drafting committee, which included representatives from the government, non-governmental organisations and private sector. The agencies involved were the Education Department, Ministry of Foreign Affairs, Prime Minister's Office, Statistics Department, Labour Department, Department of Lands Surveys and Environment, Ministry of Women Affairs, Treasury, Justice Department, National Council of Churches, National Council of Women, Women's Development Committee, Siosiomaga Society, Samoa Family Health Association and National University of Samoa.

The work of the drafting committee was consultative in nature where the text and matters of substance were continuously debated and reviewed. The main focus of the policy formulation process was therefore centered on public consultations where views were obtained through the participation of a wide range of stakeholders during the policy drafting and appraisal stages.

Members of the drafting committee met a number of times from 1994 to early 1999 to discuss issues within each sector that were considered to be directly related to population. They were each to draft and provide text on issues related to the functions and experience of their respective organisations. Much of the information generated in this process enabled the establishment of the state of the environment in relation to population. In turn, issues and problems associated with the growing population became better understood. Hence various agencies and committees had been closely involved in the policy development before its final stage. To date the final draft has been approved by the NPPC and translation to Samoan is completed. The next step is submission to Cabinet for endorsement.

Policy goal and objectives

The overall goal of the policy is - 'to achieve a sustainable balance between human and other resources, in support of current planning initiatives, and in order to improve the quality of life of all Samoans'.

This goal promotes sustainability while at the same time maintaining consistency with national existing planning and development regimes. It supports an integrated approach to resource utilisation, recognising the interconnectivity of the environment and its natural resources to the economic, social, and cultural needs of the population that utilises them. It advocates a sustainable level of population that can be sustained by available resources. The pressures on limited resources can be relieved through proper planning, dealing with population needs at all levels.

Four main objectives are presented. Their collective achievement will lead to the accomplishment of the overall policy goal. They target the areas of information and guidelines, sustainable population growth, public awareness, and monitoring of policy implementation. The policy objectives expanded on the recommendations of NEMS as follows:

1. To provide information and guidelines to enable the full integration of population issues into all developmental programmes;
2. To attain a sustainable national population growth rate which will contribute to the continuous improvement of the quality of life of all Samoans;
3. To improve public awareness of population issues and the impact of personal choices on the collective community; and
4. To monitor the achievement of policy objectives.

In essence, the objectives aim at ensuring the integration of population issues such as cultural and social characteristics and needs into development plans and activities. Enhancing people's understanding of issues pertaining to the characteristics of Samoa's population is a very important consideration in the formulation of the population policy.

The policy explores the existing situation with population issues and determines the various responsibilities of relevant sectors. This analysis of responsibilities and current activities

allows for the identification of issues and pressing concerns that needed to be addressed. Activities are then developed targeting the respective issue or need.

For policy implementation a strategy is recommended aimed at setting up an institutional framework. A population coordinating unit is to be established with the following responsibilities:

- Integrate population policy provisions into the government's Statement of Economic Strategy and other national policies;
- Oversee the policy implementation through the planning of activities and securing project funding;
- Continually monitor the achievement of policy objectives;
- Act as secretariat and clearinghouse for policy implementation.

The monitoring of policy implementation is very important to assess progress and identify constraints affecting the achievement of policy objectives. It will also determine the success or otherwise of the implementations process. It is expected that an independent evaluation of policy implementation will be carried out every three to five years.

Conclusion

The need for planning towards a sustainable population for Samoa is in response to growing concerns that the population is continuing to increase despite the country's limited natural resources. In the past, population issues were not always a priority consideration in the formulation of development projects. Impacts of an expanding population on the environment are fundamental to the success of development. Mechanisms such as a population policy should be put in place to ensure that the population grows at a sustainable rate.

This paper has provided some insights into the development of the national population policy. Despite the constraints faced in the early stages of the policy development, the formulation process has progressed well with the active participation and support of the NPPC and other interested stakeholders. The challenge is to understand the main environmental issues related to the population, decide on an appropriate national response and develop practical strategies to address them.

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