

Country Practices in Statistical Capability

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Background

This paper summarises the country papers provided for the SIAP 9th Management Seminar. Responses analysed in this report are from the 29 NSO responses received by SIAP by 24 August.

Table 1 provides a brief description of their distribution across the standard ESCAP groupings.

Table 1 Distribution of NSOs for SIAP Capability Assessment, 2010

ESCAP Country Groupings	Total
East & North East Asia	6
South East Asia	9
South & South-West Asia	10
Pacific	4
Total	29

Executive Summary

Despite both the differences in development and size, there are a number of similarities in the challenges faced by of NSOs in the management and enhancement of capability.

Many NSOs face similar challenges in recruiting, retaining staff, and ensuring staff have the necessary skills to meet current and future needs. Across the region, there are common areas of skill and capability challenges including in Macro-economics, Survey Methodology, Data Analysis and IT.

Skill development is now being seen as part of the wider strategic challenges of managing the NSO. A number of the traditional methods of skill development, e.g. formal courses, on-the-job training, international and regional courses, and tertiary study remain important to NSOs. However, a number are using new methods, often utilising technology and in parallel with the more established methods to develop capability.

Consistent with the increased strategic approach to NSO management across the region, many NSOs are taking an outcomes perspective in measuring the effectiveness of their capability building efforts.

A number of NSOs are now taking a more active role in the leadership of their NSS. In some countries, parts of the NSS are relatively developed, while in other countries the NSO plays the pre-eminent role and actively supports other players in the NSS. Accordingly, many NSOs are seeing capability development as a wider NSS system issue.

Recruitment

Of the 18 NSOs who described their recruitment experiences, only 5 (Hong Kong, China; India; Indonesia; Pakistan; Republic of Korea) reported that they were able to recruit staff with all the professional skills needed by the NSO. NSOs commonly reported that while recruits had many of the technical skills, they lacked many of the subject matter and vocational skills. Table 2 below shows the skill gaps reported by NSOs.

As Table 2 shows, there are a number of common skill gaps across the four ESCAP regions. Lack of Data Analysis skills is common across all regions. There are also shortages of Macro-Economics, Survey Methodology, Data Processing and IT skills among new recruits in most of the four regions.

Table 2 Skill Gaps for recruited staff in NSOs, by ESCAP region

	East & North East Asia	South East Asia	South & South-West Asia	Pacific
Subject Matter				
	Macro-Economics		Macro-Economics, including National Accounts	Macro-Economics
			Demography	
			Environmental	
			Agriculture	
Statistical Skills				
	Survey Methodology		Frame Development	Survey methodology
	Data Processing	Data processing	Data processing and Data Entry	
	Data Analysis	Data Analysis	Data Analysis	Data Analysis
	Dissemination			
	Evaluation and Monitoring			
Corporate				
	Corporate/Admin			
	IT	IT	IT	
Personal development , including Leadership and Management		Management	Management	Analytical thinking conceptual thinking Cost benefit Analysis
Communications and Language				
			Communications	Communications
		English	English	

Recruitment Strategies

NSOs identified a number of successful recruitment strategies. These are described in Table 3 below.

Table 3 Recruitment Strategies used in NSOs, 2010

Recruitment of Tertiary Students	Cadetships for University Students to complete Honours years in Mathematics/Statistics	Australia
	Graduate Recruitment Programmes	Australia, Lao-PDR, Malaysia, Myanmar, New Zealand
	Temporary Employment of university graduates and then employ top people	Islamic Republic of Iran
	Internships/Holiday Work/Trials	Bangladesh; Hong Kong, China; India; Japan, Malaysia, Nepal, Sri Lanka, Thailand
	Preferential entry from Statistical Training Institute	Bangladesh
Recruitment Processes	Specialist External Recruitment for specific skills	Indonesia, Republic of Korea, Sri Lanka
	Government Recruitment Processes	Papua New Guinea, Philippines
	Annual publicised Public Competition	Vietnam
	Psychometric testing to assess analytical/conceptual thinking	New Zealand
Secondary Recruitment	School Leaver recruitment with specific skills	Maldives

With most NSOs recruiting new recruits from Universities, it is not surprising that most NSOs take active steps to attract university students. The use of internships/holiday work/ trials is a common technique. Many other NSOs also use Graduate Recruitment Programmes.

Constraints encountered in Recruitment

NSOs also provided information on the constraints faced in recruitment, as shown in Table 4. While the most common constraint was Government Processes not offering flexibility to NSOs, lack of interest by prospective employees was also noted as a constraint. Uncompetitive salaries, a constraint identified by Afghanistan, is also a significant issue in retention for many NSOs, as shown in Table 12 later.

Table 4 – Constraints faced in Recruiting

Uncompetitive Salaries	Afghanistan
Lack of Interest in working for NSO/Other roles more attractive	Afghanistan, Maldives
Academically qualified, but lack practical knowledge	Bangladesh
Government processes constrain NSO	Indonesia, Japan, Thailand, Malaysia, Nepal, Tonga

Arrangements with Universities

Recruitment is one of the main reasons why NSOs have developed close relationships with Universities. 22 of the 29 NSOs reported that they work closely with Universities, with 4 NSOs reporting that they do not. The reasons included lack of funding, as well as one NSO noting that the Universities already provided graduates in Statistics.

Working Arrangements included curriculum development, training, as well as collaborative research. The different arrangements are summarised in Table 5

Table 5 Examples of Types of arrangements with Universities

Arrangements with Universities	Countries
Funded University positions	Australia, New Zealand
Joint Statistical Training Institute	Philippines, Vietnam
NSO involved in University curriculum development	Afghanistan (pending), Australia, China, Hong Kong China, Islamic Republic of Iran, Lao PDR, Macao, Myanmar, New Zealand
Universities provide training at NSO	Australia, Bangladesh, Mongolia, Republic of Korea
NSO provides training at Universities	India, Maldives, Nepal
Collaborative Research/Working Groups	Australia, China, New Zealand, Turkey
Internships	Bangladesh; Hong Kong, China; India; Japan, Malaysia, Nepal, Sri Lanka, Thailand

Development

Strategic Planning

NSOs across the region have invested significantly in recent years in strategic planning. NSOs reported that Human Resource Development is a core element of these long term plans. However, some NSOs reported that this is still a challenging area. For example, Tonga reported that the development plan did not work due to high turnover, lack of resources and training.

Integration of Professional Development into long-term planning

There are a number of ways in which NSOs have integrated professional development into their long term planning. As Table 5 shows, this includes Performance Management Schemes, as well as Training and Development Plans.

Table 5 – Examples of Integration of Professional Development into long-term Planning

Performance Management Schemes	Australia, New Zealand
Training and Development Plans	Hong Kong, China; Japan, Malaysia, Maldives, Philippines, Thailand, Turkey
Technical Assistance programme with focus on training	Afghanistan, Timor-Leste

Capability Building

NSOs identify professional capability building in a number of ways. Some NSOs take a strategic/top down perspective, while other NSOs build their capability building from a training perspective. The different ways are shown in Table 6.

Table 6 – NSO Approaches to Identifying Professional Capability

Approach	Key Activities	Countries
Strategic	Capability Framework	New Zealand
	Structured Human Capital Development	Malaysia
	Succession Planning	Australia
	Continuous Training at all levels	Turkey
	Organisational Gaps	Maldives
Skills development	Training Needs Assessment	Afghanistan, Bangladesh, Bhutan, Pakistan, Papua New Guinea, Philippines, Republic of Korea, Thailand
	Skills Development – Partnerships with Employees	Australia
	Annual Training Programme	Islamic Republic of Iran, Sri Lanka

NSOs take a range of approaches to developing their professional staff, as shown in Table 7. While most NSOs make use of Formal Courses, International /Regional agency provided training, On-the-Job training and Tertiary Study; there are a wide range of other training methods. These range from E-learning to provision of manuals, to the provision of international consultancy opportunities.

Table 7 –Ways of Developing Staff in NSOs, 2010

Ways of Staff Development	Number of countries reporting this method
Formal Courses – Agency provided	20
International/Regional Agency provided training	19
On-the-Job training	15
Tertiary Study	14
Study Tours	7
Other Country Training	6
Internal Seminars	5
Participation in External Seminars	4
Self-help training	4
Job Placements/Projects	3
Consultancy Opportunities	1
E-learning	1
Instruction Manuals	1

Opinions differed as to which of these methods were most effective. For example, while some NSOs considered that Study Tours were the most effective, as they enabled attendees to get training from experts, and receive practical training, others criticised study tours as too short. There was however consensus on the value of On-the-Job training, which was seen as providing practical and applied learning.

NSOs also were united that staff development needed to be practical. New Zealand noted that it was critical that the staff development opportunities were integrated into the work of the trainee, and emphasised the importance of blended training. In this regard, the point was made that training needed to draw on a range of methods.

As noted in Table 7, international and regional provided training is important for a number of NSOs. Many NSOs who utilise this way of staff development, noted that it was constrained by funding. Accordingly, NSOs applied a series of selection criteria to determine both whether to utilise international training and what type of candidate to send.

NSOs identified a range of criteria. As Table 8 below shows, many NSOs focus on attributes of the individual, when determining whether to use international provided training, and determining which staff member should attend. While only a small number of NSOs explicitly identified organisational factors, it is likely that organisational level skill gaps will be implicit criteria when determining whether to access specific training. In terms of the Training themes, a number of NSOs (Afghanistan, Lao PDR, Malaysia, Republic of Korea, Thailand, Timor-Leste and Turkey) specifically identified English or other language skills as key criteria when determining who is sent for international training.

Table 8 – Selection Criteria for International/Regional Provided Training

Theme	Criteria	Number of NSOs citing this criteria
<i>Organisational Focus</i>	organisational skill gaps	2
	equality of opportunity	1
<i>Training related</i>	English or other language	7
	Relevance of topic	4
	pre-requisites	3
	level/content	2
<i>Trainee characteristics</i>	role/job specification	8
	work performance	5
	academic background	4
	previous training record	3
	rank of staff member	3
	future development needs	2
	Potential	2
	Commitment	1
	Age	1
	foreign school exam results	1
status of employment	1	

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Measuring the Effectiveness of Capability Development

Effectiveness is measured in different ways. Some such as the Islamic Republic of Iran use a number of outcome focused measures, such as Management by Objectives (MBO). Others are more focused on measuring training inputs. Measurement methods are shown in Table 9.

Table 9 – Methods used to Measure the effectiveness of Capability Development

Focus	Measure	Countries
Outcome		
	Regular senior management forums	Australia
	Contribution to achieving organisational goals	Hong Kong, China; Papua New Guinea
	Improvements in staff Performance	Hong Kong, China; Pakistan, Tonga
	MBO	Islamic Republic of Iran
	Contribution of staff to Research activities	Islamic Republic of Iran
	International benchmarks/compliance frameworks	Turkey
Input	Assessment tests	Bangladesh
	Performance in Office assignments	Bangladesh
	Training course effectiveness	Islamic Republic of Iran, Malaysia, Republic of Korea
	Training Records	Malaysia, Republic of Korea, Thailand

Measurement Tools

New Zealand described how it uses the Application of Learning (AppLe) Survey. This survey is based on one used across international government organisations. The survey asks individuals and their managers to respond to questions around learning application, barriers and enablers. These results help identify manager and staff perceptions, and areas where further support is required.

Organisational Strategies

NSOs report that they use a variety of organisational strategies in the development and maintenance of statistical capability.

Career planning and Career paths

Of the NSOs who responded to this topic, 10 reported that they used career planning. A further 5 NSOs reported that they did not use career paths. Common examples of career planning are shown in Table 10 below.

Table 10 Career planning methods

Method	Countries
Merit/Seniority based promotion	India, Pakistan
Formal Assessment prior to Promotion	Australia, Malaysia, New Zealand
Centralised (within NSO)	Malaysia
Government Systems	Bhutan, Lao DPR, Thailand
Rotation	Republic of Korea, Sri Lanka
Specific to different groups	Australia, Bangladesh, Republic of Korea

Determining skills needed to meet current, emerging and future requirements

While many NSOs reported that they regularly refresh training programmes to ensure long term relevance, some NSOs described other ways in which they determine future and emerging skills. These are shown in Table 11.

Table 11 – Examples of Identifying Skills

Examples	Countries
Participation in Academic Societies	Japan
Role of professional staff	Australia; Hong Kong, China; New Zealand
Strategic Plan development – stakeholder engagement	Thailand
International Forums	Maldives, New Zealand

Competency Management

Twelve NSOs (Afghanistan, Australia, Bangladesh, Bhutan, India, Islamic Republic of Iran, New Zealand, Pakistan, Republic of Korea, Thailand, Timor-Leste and Tonga) reported that they have some form of competency framework in place. Of these, most have supporting formal performance management systems. However one NSO (Indonesia) noted that it does not yet have the support of formal record keeping systems in place.

Participation in Professional Associations

Nineteen NSOs reported that their staff actively participate in professional associations. Nearly all of these NSOs actively support their staff participation, through a mixture of financial support and actively encouraging leadership roles in local and international organisations.

Organisational and Job structure

A number of NSOs reported that they have taken decisions to change organisational or job structure, in order to address capability issues. Two (Vietnam and Indonesia) have outlined plans for future restructuring. Centralisation of methodology functions has been a common response. Some have also placed a stronger focus on professionals in leadership roles. Malaysia also reported on the recent restructuring which has seen the establishment of over 1,000 new posts.

Retention Constraints and Enablers

NSOs reported a number of issues associated with retention. While the range of work was generally not a negative factor, NSOs reported that salary differentials compared with the private sector/international agencies and other government agencies were important factors.

On the other hand, strong organisational culture and the scope of work were positive factors in retention. This is highlighted in Table 12. For a number of countries, retention challenges are similar to the recruitment challenges described in Table 4 above.

Table 12 Retention Constraints and Enablers for NSOs, 2010

Retention Constraints	Issues	Number of Countries	Countries
	Salary	9	Afghanistan, Bangladesh, Bhutan, Lao PDR, Nepal, Papua New Guinea, Thailand, Timor-Leste
	Range of work limited	1	Tonga
	Range of work too sophisticated	1	Afghanistan
	Gaps in professional capability building in decision-making	1	China
	Lack of awareness of statistical system	1	India
	Ageing Staff	2	Macao, China; Nepal
	Shortage of capacity in country	1	Macao, China
	High turnover	1	Maldives
	Limited career options	1	New Zealand
Retention Enablers	Factors		
	Scope of work wide	3	Australia, Pakistan, Republic of Korea
	Culture/professionalism /training	1	Republic of Korea

Formal Development Programmes

A small number of NSOs reported that they have formal Development Programmes in place. As Table 13 shows, these are predominantly in the form of formal training programmes. Some NSOs have also developed Leadership and Graduate programmes. In the case of Australia, this programme has been in place for 30 years.

Table 13 Formal Development Programmes

Formal Programme	Countries
Graduate Programmes	Australia, New Zealand
Leadership Programmes	Australia, Indonesia, Islamic Republic of Iran, New Zealand
Technical Training programmes for new staff	Bangladesh, Hong Kong, China; India, Indonesia, Islamic Republic of Iran
Compulsory In-service Training	India
Training Institute programmes	Republic of Korea, Turkey
Other Training Programmes	Afghanistan, Islamic Republic of Iran, Pakistan

Role of Contracting In and Contracting Out

Ten NSOs reported that the contracted in capability, with a further four reporting the use of international experts, and four reported that they contracted out for services not available internally. For those that contracted in capability, a common resource was staff who had retired. Many of the NSOs who contracted out for specialist services, were obtaining IT services. More details are shown in Table 14.

Table 14 – Use of Contracting by NSOs, 2010

Contracting	Countries
Contracting In	Australia, Bangladesh, Maldives, Nepal, New Zealand, Pakistan, Papua New Guinea, Republic of Korea, Thailand, Timor-Leste
International Experts	Afghanistan, Bhutan, Cambodia, Timor-Leste
Contracting Out	Bangladesh, China, Papua New Guinea, Republic of Korea

Contribution of IT to capability of the National Statistical Service

NSOs consistently reported that IT has improved efficiency. New Zealand noted that new staff are often more proficient and capable in IT than previously, saving on introductory training costs. They also however noted that new and younger staff have greater expectations of technology, and find aspects such as standardised tools and security a constraint. Younger staff also have higher expectations of up –to-date technology.

Many NSOs also reported that they have increasing challenges in attracting and retaining IT staff, who are in considerable demand from the private sector.

Government Recognition

Approximately half of the NSOs who responded, reported that the professional requirements of NSOs were acknowledged by their government.

Table 15 Recognition of NSO Capability by Government

Recognition of NSO Capability	Number of Countries
Yes	8
No	7
Not applicable	2
Non Response	12

Countries who reported Government recognition of their capability, included Afghanistan, Bhutan, Islamic Republic of Iran, Maldives, Myanmar, Pakistan, Republic of Korea and Turkey.

National Statistical Service Capability

Professional Capability of the National Statistical Capability

About half of the NSOs responded to this question. Those that responded reported that generally the capability of the NSO was similar or higher than the rest of the NSS. Some NSOs pointed out those policy agencies have groups of staff with strong analysis skills. In those areas, skill levels may be higher than found in the NSO. Other NSO reported that the NSO provides lots of assistance to other parts of the NSS, with some such as Bhutan noting that most other organisations rely on the NSO to support them technically.

Capability Strengthening

A number of NSOs have a role in Capability Strengthening across the NSS. This includes the provision of training, noted by Australia, Maldives, Pakistan, Philippines and Thailand. Australia and Maldives noted the networks and forums for staff in NSS agencies. New Zealand described how a common qualification across the NSS has contributed to capability building.

Capability Challenges

NSOs noted that there were a number of capability challenges, as shown in Table 16. A number of these are similar to the skill gaps in recruits in Table 2.

Table 16 Capability challenges in NSOs, 2010

Capability Area		Countries
<i>Subject Matter</i>	Macro-Economics	Australia, Mongolia, Nepal, Pakistan, Papua New Guinea
	Agriculture	Cambodia
	Meeting Regional/Local Needs	Cambodia, Mongolia
<i>Statistical Skills</i>	Data Analysis	Afghanistan, Islamic Republic of Iran
	Data Processing	Mongolia
	Practical Statistical Knowledge	Papua New Guinea
	Survey Methodology	China, Papua New Guinea, Thailand
<i>Corporate</i>	Capability development	Bhutan, India, Myanmar, New Zealand
	Data Management	Nepal
	Data Quality	Mongolia
	IT	Indonesia, Maldives, Tonga
	Project Management	Papua New Guinea
<i>Personal development , including Leadership and Management</i>	Management Skills	Indonesia, Japan