

Pacific Island NSOs Skills Audit – Executive Summary

An NSO staff skills audit was undertaken in late 2011, focusing on all countries and US territories (18) where SPC is engaged in regular training; all countries and territories participated except for PNG. French territories were excluded, as our training activities are very limited there, given the provision of assistance coverage from Paris.

It is important to state up-front when considering the provision of skills training by various statistical providers, that this audit provides a **snapshot of the situation prevailing in these offices at the time**; given the high degree of staff turn-over, more often than not involving trained staff leaving for employment elsewhere, this has an obvious impact on the training profile of key training providers in the region, such as SPC, SIAP, PFTAC, USP, UN Agencies and the statistical agencies of Australia and New Zealand. It also means, staff recruited since are not covered.

The general focus of this first report is to provide an **overview, general snapshot of the major findings**.

To inform the PSSC Technical working group PSSC decided to convene after completion of the skills audit, **it is proposed to produce individual NSO profiles**, as different strategies and types of training and capacity building need to be developed, commensurate with structural differences across agencies, as offices with 25+ staff have quite clearly different needs and absorptive capacity than offices with only a handful or fewer staff. Some general country variations are presented in this report, but we have made efforts to avoid any kind of rankings, along the World Bank Statistical Capacity scale.

Office Profile

Total number of staff surveyed was 224, covering every staff working in these offices, with staff numbers ranging from 44 in Samoa to 1 in Tokelau.

4 NSOs had a staff contingent of 25 staff or more, with 8 of the 17 NSOs surveyed having less than 5 staff.

The mean age of staff was 38 (median 37), with ages ranging from 19 to 80 (not a typo).

53 percent of NSO staff were women, with Guam (72%) and Tonga (70%) employing the highest proportion of female staff. This gender parity, however, does not quite translate across job levels, showing a substantial divergence in male and female employment across broad categories. Senior management remains the domain of men, with only 2 of 21 Pacific Island NSOs currently headed by women, whereas administrative support is “women only” with 100 percent (Graph, p.16).

On average, length of service totals 12 years – with the Solomon Islands (19) and Guam (18) having the longest established workforce, with staff in Samoa, Vanuatu and Tuvalu showing average 7 years of service.

Contrary to popular belief, most NSO staff worked in economic divisions (34%), ahead of social and demographic statistics (26%).

79 percent of staff were employed at professional level, with just 21 per cent engaged as support staff or junior officers. The Solomon Islands (50%) and Cook Islands (40%) employed the largest proportion of senior professionals. Tonga (41%), Guam (33%) and Samoa (32%) had the largest proportion of statistical support staff .

Job Duties

On average, staff performed 2 different duties – with 45 percent focusing on one principal duty, 21 percent each reporting 2 or 3 duties, 10 percent covering 4, and 3 percent multi-tasking 5 or more duties. Reported duties were aggregated into 17 different job categories.

Producing economic statistics tables was the most commonly reported job duty, involving one in three NSO staff (32%), followed by statistical support (28%) and economic analysis and report writing (25%). It is worth noting that 3 of the 5 most commonly reported duties were economics related, with data processing (2%) and website maintenance (1) are the least frequent reported duties.

Aggregating the seventeen main job duties (categories), 42 percent of NSO staff were undertaking economic statistics related tasks, which is twice as many working in the social and demographic area (20%).

Formal statistical Training summary

NSO staff averaged 3 participations in formal training events, ranging from formal and thematic short-term workshops or seminars, to the six-month SIAP course in official statistics (university courses are excluded here, and will be addressed in a separate section.

24 per cent of staff never attended any formal training, with one person managing 32 such training events.

Quite marked contrasts emerge between countries, with Kiribati averaging 6 such training events, closely followed by FSM, RMI, Solomon Islands and Tuvalu with 5 each.

Male NSO staff average access to more training opportunities (4) compared to women (2.6).

Education

This section covers four areas pertaining to NSO staff educational background: (i) highest level of secondary education completed; (ii) highest level of post-secondary education attended; (iii) highest level of post-secondary education completed: and (iv) highest post-secondary qualifications achieved.

i. highest level of secondary education completed

Most respondents completed Form 7 or equivalent of High School (56%), 28 percent completed Form 6, 10 percent completed Form 5, and 6 per cent left school before completing Form 5.

ii. highest level of post-secondary education attended

One in two NSO staff has attended university (49%), 18 percent attended Community College (13%) or a poly-technical institute or TAFE (5%), with one in three (32%) listing no post-secondary education.

iii. highest level of post-secondary education completed

41 percent completed a university education, 15 percent completed Community College (13%) or a poly-technical institute or TAFE (2%). Levels of completed post-secondary education varies quite markedly between countries.

iv. highest post-secondary qualifications achieved

One in three NSO staff completed either a degree (29.5%) or Masters (6.7%), and further one in four obtained either a diploma (14.3%) or certificate (10.3%).

(Note: would be good to identify subject matter areas)

Post-secondary education by job duties

Table-1 lists provides a comprehensive account on highest post-secondary educational qualifications achieved against the seventeen principal job categories.

While 61 per cent of all statistical leaders and those undertaking managerial duties have university qualifications, having achieved either a degree (39%) or Masters (22%), a very diverse picture emerges across the remaining job categories, which should have **significant implications on future statistical training and capacity building strategies**.

While a university degree is not itself a guarantee for statistical capacity or excellence, Table-1 does highlight some worrying features. Topping the list would have to be that

- about half the NSO staff involved in demographic (54.2%) or economic collections (48.7%) has no post-secondary educational/professional qualifications,
- a similar pattern emerging with regards to demographic tabulations/compilations (59.3%) and economic tabulations/compilations (41.7%), and
- far too many people involved in demographic (42.1%) or economic (43.9%) analysis and report writing never having experienced appropriate technical training in this area, which a secondary school simply cannot provide.

This picture is deeply worrying, and needs urgent attention by PSSC, given its intent to developing a long-term Pacific statistical training strategy.

Job-Specific Training - General

The objective here was to establish the prevalence of job-specific training for staff to perform the principal duties they engaged in – irrespective of this training was provided on the job, by supervisor or senior colleagues, or in a more formal learning environment, attending specific technical workshops or professional attachments provided by different statistical training providers. Since the emphasis was on **current activities**, this covers both new staff (induction type activities) or staff working in new positions; with many staff having had different job duties during working life at the NSO, job-specific training for each job cannot be established.

Most staff indicated (73%) indicated, they did indeed receive such job-specific training for the activity they are currently engaged in; on average, staff experienced between 2 and 3 of such events, with 17 percent stating that had had 4 or more such opportunities.

Of this group, the vast majority (87%) participated in **formal training events** provided by different statistical training providers, such as SIAP, SPC, USP, UN agencies, statistical agencies of Australia, NZ and the US, PFTAC, IMF, World Bank the most prominent, with most staff (72%) having had exposure to between 1 and 3 such opportunities.

The three **most commonly referred to training events** covered census/survey planning (34.8%), specialized-thematic workshops (34.1%) and Data analysis and Report Writing workshops (26.8%); with around 10 percent of staff having been exposed to formal training in data processing, leadership/project management type activities, and introduction to basic computer skills.

The three **most common training providers** for Pacific island statistical agencies, in terms of staff numbers having attended courses provided by them, were SPC (41.5%), SIAP (29.9%) and formal training organized in-house, by the respective NSO or a national training provider (27.4%).

Job-Specific Training – by duty of respondents

Moving on from a general exposure to formal training, to learning events targeting people's job-specific duties, illustrate a **substantial training gap** between current professional work undertaken by NSO staff, and formal training received in this particular field of activity (Table-2), with most staff working across each of the 17 major task categories not having been exposed to formal training in the areas they currently work in.

Notable exceptions are

- the two staff who claim **website maintenance** is their principal duty, and who both have been exposed to programming and web-design training; and
- people engaged in **managerial duties**, many of who have been exposed to specialized/thematic/technical training (51.2%), census and survey planning (36.6%), Data analysis and Report writing (26.8%) and Leadership/Project management courses (24.4%)

But when it comes to the majority of NSO staff performing **core statistical business**, such as data collection, tabulations, analysis and report writing, the **training gap is substantial**. This is, in our view, one of the more worrying findings of this skills audit, requiring urgent attention, including a better dialogue between training providers and NSOs, and improved governance arrangements pertaining to the organization and management of such learning events.

Job-Specific Training Sufficiency

Apart from a not always perfect fit between technical job demands and having had access to job-specific training, a second major finding is that **only one in three people** having received job-specific training (38%) **believe this training to be sufficient to do a competent job** in their office.

- Nearly half of all staff having received job-specific in specialized fields relating to their current duty (44.6%) stated they require further training in this area;
- the same applies to staff having been exposed to Data processing (CSPRO) training, with one in three expressing the need for more training (38.1%); and

- one in four people having attended Data analysis and Report writing training (27.3%) or leadership/ project management courses stated they require further training in these fields

While these findings should not come as a surprise, considering that most such learning events are of a short-term duration, except for the six-month SIAP course in official statistics, or shorter-term (3-4 week) Data Analysis and Report writing workshops or professional attachments with regional and international statistical agencies, these findings should nevertheless grab the attention of the PSSC TWG on statistical training, given the substantial investment in time and resources in such training.

In terms of training demands, what **NSO staff identified as their own specific training needs**, one in four staff (24.6%) is interested in specialized thematic courses (e.g. economic and social/demographic topics, methods; project management; IT) , Data Analysis and Report Writing (18.3%) – ahead of basic computer skills (12.5%), census and survey planning (12.1%) and data processing (9.8%).

Of staff who never received any job-specific training, basic computer courses (29%) and specialized/ thematic courses top the list, ahead of Data Analysis and Report Writing (17%) and census and Survey planning (17%).

General Statistical Training and Training providers

Apart from job-specific training received, 61 per cent NSO staff indicated they had participated in, on average, two additional statistical training events.

The **most popular training** received was in Data analysis and Report writing, attended by 24 percent of all 224 NSO staff surveyed, followed by census and survey planning (16.5%), the SIAP six-month introductory course in official statistics (16.1%), Data processing (14.3%), National Accounts/BoP (12.1%), and the SPC-SIAP Three-week introductory course in general statistical concepts and procedures (10.3%).

Two out of three NSO staff have taken courses provided by SPC (36%) and SIAP (30.4%), which together with UN technical agencies (19.2%) are the **main providers of statistical training in the region**.

Other Statistical Skills

Staff were also asked to identify other professional skills they have that they consider useful to help them in their job (Table-5).

- More than half claim skills in spread sheets (78%), data analysis (64%), report writing (64%) and databases (51%); while may look as a distinct positive, it could be argued that work in a statistical agency might call for a universal coverage in spreadsheet proficiency, and a higher skill coverage working with databases.
- 46 percent indicate having data processing skills, and 24 per cent claim GIS skills – a surprise finding from where we sit, as this is something clearly not reflected in statistical outputs in most NSOs.
- Across the 10 skills identified, **formal training by training providers** played a major role in the area of data analysis, report writing, GIS, project management and web publishing (Table-6).
- **NSO focused/on the job-training** by colleagues played a major role in acquiring skills with spreadsheets, data processing, database work and accounting;
- with IT skills, in most cases **self-taught, or learned on the job**.

Looking at the **source of training** provided in these “other skills” , where people identified they acquired these skills from formal training providers, SPC , SIAP and USP are listed as main sources (Table-7). Having said this, some care is advised in reading too much into this, consider the large proportion of respondents who failed to list the training provider – poor data coverage, which one might say, one should not expect to see from NSO staff.

Despite claiming some proficiency across many skills not necessarily related to the principal duties undertaken, across all but two skill sets (web publishing, IT), more than half of the respondents across the other 8 skill sets, indicated a need for further training.

Training Summary

Combining staff exposure to the various types of training they have been exposed to – job-specific training and general statistical training, shows the following:

- more than half of all NSO staff claim to have had some exposure to data analysis and report writing (55.4%);
- one in three had some training in census/survey planning (34.4%) and basic computer skills (33.9%), followed by data processing (30.8%); and
- one in five referred to training in project management and working with database.

Matching formal training in these various areas, with the type of activity people currently undertake, supports an earlier observation about **skill gaps** in specific sectors, and further highlights additional NSO management challenges, dealing with **skill loss** and **mismatches** between available skills (in the office) which are not applied to related jobs, due to career development (promotion) or changing duty requirements. Table-8 illustrates this quite succinctly.

- On the positive side, staff involved in data analysis and report writing, had the highest level of complementary skill training, with between 51 and 74 per cent claiming to have received formal training in this field.
- A similar picture emerges amongst those undertaking managerial duties, with nearly 50% having attended formal leadership and/or project management training, and two out of three having received training in census and survey planning.
- More problematic challenges emerge when it comes to one of the core activities of any NSO – statistical tabulations, where formal training in database management was very low (22-26%), and only between 36.1 and 51.9 per cent had formal training in data processing, and between 33.3 and 55.6 percent in basic computer skills.
- And amongst statistical support staff, only 29 per cent have had some formal training in basic computer skills, including spreadsheets.

Case Studies

The report concludes with two illustrations, of further detailed analyses that might be pursued as part of the PSSC TWG on statistical training.