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Regional initiatives: Modernization of statistical information systems

Regional cooperation on the modernization of official statistics**

Note by the secretariat

Summary

The present document emphasizes the urgency and importance of modernizing official statistics as a strategy for achieving the goal of creating a more adaptive and cost-effective information management environment for national statistical institutions (NSIs) by 2020 through stronger collaboration among strategic players. This goal was adopted by the Committee on Statistics at its second session in December 2010 (see E/ESCAP/CST(2)/9). The present document: (a) serves to inform the Committee of the supportive activities that have been implemented by the secretariat to meet the goal since its second session; (b) notes the key lessons learned from those activities; (c) outlines recent global developments related to the goal; and (d) proposes a future workplan to modernize official statistics in the Asia-Pacific region, mainly by raising awareness and building knowledge within NSIs, facilitating regional collaboration, and influencing global directions. It is recommended that a regional mechanism comprising a high-level strategic body and an expert community be established as the modality for guiding and supporting the proposed workplan. The Committee is invited to consider the proposal for endorsement.

* E/ESCAP/CST(3)/L.1/Rev.1.

** Late submission due to the timing of expert consultations.

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I. The challenge of modernizing official statistics

A. The changing environment

1. Two major advances are changing the environment in which national statistical institutions (NSIs) operate. On the one hand, new technologies are enabling information to be readily and rapidly available, creating new expectations on the part of clients; on the other, the amount of data generated from personal devices, sensors, instruments and computers is increasing rapidly, representing new important sources of information that can be used to generate statistical information.

2. Changing client expectations and new sources of information call for national statistical systems to offer a new range of more integrated statistical products to clients. This requires that business processes along which data are collected, processed and disseminated by national statistical systems be redesigned.

3. While most of the concepts and tools currently being developed to respond to these advances originate from national statistical systems in Europe and North America, the issue is globally pertinent. Accelerated flows of information and new expectations of users are observed in all countries, independently of the level of development of national statistical systems. The main enabler of this changing environment is the Internet, which is benefiting and affecting all countries at varying degrees and speed.

4. In response to these strategic challenges and opportunities, the Committee at its second session set the overarching goal for 2020 of creating a more adaptive and cost-effective information management environment for NSIs through stronger collaboration.¹ In its resolution 67/11 of 25 May 2011 on strengthening statistical capacity in Asia and the Pacific, the Commission called on members to align resources and institutional arrangements to support the achievement of the two goals described in paragraph 1 of the resolution.

B. Approaches to modernize official statistics through stronger collaboration

5. The proposed strategy for achieving more adaptive and cost effective information management environments centres on the modernization of official statistics. In the present document, modernization is understood as a strategic, business-driven approach to the standardization of statistics operations in support of the creation of new statistical products that are better suited to the way the world is operating today.

6. Modernization has the potential to lead to statistical processes that are more agile and quality assured, while also requiring less resources to operate and maintain. Rather than incremental enhancement of existing systems and processes, modernization efforts aim to establish a transformed information management environment.

7. Collaboration is a defining characteristic of the strategic directions set by the Committee. Rather than each NSI addressing the challenges and opportunities independently, modernization of statistical processes, from planning to production, dissemination and evaluation, based on flexible assembly of reusable methods, components, processes and data repositories will deliver greater net returns to statistical organizations if pursued collaboratively rather than in isolation.

8. One form of collaboration is for a number of NSIs to work together directly to co-design and co-build a new solution that addresses a shared business requirement. Compared with individually developing equivalent solutions, this form of collaboration tends to be more complex in terms of communication, more expensive in terms of project management and, hence, more time consuming. Nevertheless, if requirements are similar, then co-designing, co-developing and individually deploying the resulting common solution would likely be a more cost-effective solution than one that is based on each NSI individually designing, developing and deploying separate, although broadly equivalent, solutions. The co-design and co-development solution may also result in a shared solution which is of higher quality than individually designed and developed solutions.

9. A second approach is for regional and global NSIs to work together to develop frameworks and agree on standards that will allow compliant solutions to be designed and developed by one NSI to be readily shared with and harnessed by other NSIs. This might be termed “collaboration based on common architectural standards”. The concept is in some ways analogous to developing and applying a global statistical framework, such as the system of national accounts. Using this approach, each NSI designs and executes its own work but does so in accordance with a shared

¹ See E/ESCAP/CST(2)/9, chap I, sect. A, recommendation 2/1.

framework. This ensures that the results are (at least broadly) compatible, which would almost certainly not be the case without a shared framework.

II. Global developments

10. Recent global initiatives have emphasized the development of a common framework and standard. On this point, the High-level Group for Strategic Developments in Business Architecture in Statistics (HLG-BAS) was established by the Bureau of the Conference of European Statisticians (CES)² in December 2010.³ HLG-BAS is comprised of the heads of ten national and international statistical organizations. Its mission is to oversee and guide discussions on developments in the business architecture of the statistical production process, including managerial, methodological and information technology aspects. HLG-BAS is mandated to cooperate and coordinate its work with other relevant bodies, including those with a membership beyond that of the Bureau of the Conference of European Statisticians, such as the ESCAP Committee on Statistics.

11. Since its establishment, HLG-BAS has produced a number of major outputs, including: the HLG-BAS strategic vision (2011);⁴ the strategy to implement the HLG-BAS vision (2012);⁵ and the generic statistical information model (GSIM) (2012).⁶

12. These outputs are significant for: (a) shaping the context of and directions for the collaboration on modernization of official statistics; (b) outlining concepts and mechanisms, which may be relevant to collaboration in Asia and the Pacific; and (c) providing countries in Asia and the Pacific with a path upon which they can influence the direction of global development and maximize opportunities for assistance in moving modernization efforts forward at the national level. On this point, further details are provided in the annex.

III. Regional dialogue

13. Since the second session of the Committee, a number of regional events have been organized to discuss modernization of official statistics, including: the expert group meeting on opportunities and advantages of enhanced collaboration on statistical information management in Asia and the Pacific, held in Bangkok in June 2011; the tenth Statistical Institute for Asia and the Pacific (SIAP) management seminar for heads of national statistical offices in Asia and the Pacific, held in Chiba, Japan in December 2011; and the practical advisory workshop on supporting the effective use of information and communication technology in population census operations, held in Moscow in April 2012.

² The CES provides a platform for coordination of international statistical work in the United Nations Economic Commission for Europe (UNECE) region. Its members are heads of national and international statistical organizations, representing the UNECE and the Organization for Economic Cooperation and Development (OECD) member countries, plus some countries from outside the region, and all major international organizations that are active in statistics.

³ ECE/CES/BUR/2010/NOV/28.

⁴ ECE/CES/2011/1.

⁵ ECE/CES/2012/10.

⁶ www1.unece.org/stat/platform/display/memis/Generic+Statistical+Information+Model+%28GSIM%29.

14. The EGM was organized with the objective of identifying common issues and priorities and exploring the modalities for practical cooperation. The meeting gathered experts with in-depth knowledge and practical experience in formulating and implementing business operations or information management strategies in national statistical institutions from the following countries: Australia; Cambodia; China; India; Kazakhstan; Malaysia; Philippines; Republic of Korea; Sri Lanka; Thailand; and Vanuatu. Participants at the meeting agreed to send a number of messages to the heads of NSIs in Asia and the Pacific.⁷ Those messages focused on the urgency of modernization of statistical systems for ensuring the continued relevance of official statistics, highlighted the momentum that is building around the development of international-agreed standards, and recognized the efforts that are taking place to create an international collaborative framework to support transformation efforts. The experts concluded that there would be value for ESCAP member States to participate more actively in related global bodies, including at the senior management level through HLG-BAS and at the expert level through global bodies, such as the Management of Statistical Information Systems (MSIS)⁸ and the Steering Group on Statistical Metadata (METIS).⁹

15. The tenth SIAP management seminar for heads of national statistical offices in Asia and the Pacific¹⁰ presented an opportunity to convey the message from the EGM to the highest level of management in NSIs. Twenty-five member and associate member States participated in the seminar. From group discussions on specific aspects of modernization of official statistics, participating managers noted the need for enhanced awareness at the regional level of the urgent need for modernization. It was suggested that a regional round table discussion on the future core business of the national statistical systems be organized, involving NSIs and trendsetters in the areas of information technology and the media. In discussing options for strengthening collaboration, the managers agreed that the Asia-Pacific region would benefit from active engagement in the HLG-BAS and increased participation in the work of technical groups under the auspices of the HLG-BAS. They also noted that additional skills were needed to support modernization processes, including on the application of the generic statistical business process model (GSBPM), and that regional capacity-building in that area should be undertaken.

16. The practical advisory workshop on supporting the effective use of information and communication technology in population census operations, which was jointly organized by the Russian Federal State Statistics Service (Rosstat) and the secretariat, invited participants¹¹ to take a hands-on approach, exploring some of the concepts and tools underlying the modernization of official statistics through demonstration, discussion and exercises. The sessions included the presentation and application of the statistical data and metadata exchange (SDMX) tools developed by the Italian National Institute for Statistics, group work to map the stages of

⁷ www.unescap.org/stat/MSIS/egm-Jun2011/EGM-report.pdf.

⁸ www1.unece.org/stat/platform/display/msis/MSIS.

⁹ www1.unece.org/stat/platform/display/msis/METIS.

¹⁰ www.unsiap.or.jp/training/ms10_index.php.

¹¹ Participants included information technology and methodology experts from: Afghanistan; Armenia; Cambodia; Kazakhstan; Kyrgyzstan; Lao People's Democratic Republic; Mongolia; Russian Federation; Tajikistan; Turkmenistan; Uzbekistan; and Viet Nam.

national statistical processes using the GSBPM framework, the presentation of census operations in the participating countries, microdata archiving and dissemination, geographical information systems, and online electronic questionnaires developed by Statistics Estonia.

IV. Lessons learned

17. The regional dialogues described above identified a number of characteristics of national statistical systems in the region that should be taken into account in pursuing future modernization efforts:

(a) Some of the concepts, standards and tools developed to support the modernization of official statistics are relatively new to a large number of countries in the region. There is therefore a need to continue to build knowledge on the subject matter and advocate for the importance and urgency of modernization among NSIs in Asia and the Pacific;

(b) NSIs in the region are most often structured by statistical areas or domains, such as agricultural statistics, education statistics, national accounts, among others. Such structures present a powerful barrier to collaboration and thus to standardization of statistical business processes;

(c) Unlike members of the European Union, who are accustomed to aligning and collaborating within the European Statistical System, the Asia and Pacific region does not have transnational legislation on statistics and is not accustomed to and lacks a solid framework and motivator for standardized statistics production and reporting. An Asian and Pacific collaboration strategy will hence be designed to respond in a flexible manner to the needs, priorities and capacities of individual members of the Committee;

(d) The least developed countries in Asia and the Pacific, in particular, lack the full range of methodological and information technology expertise necessary to contribute actively to developing and implementing modernization standards, concepts and tools. The regional expert dialogues called for concepts and tools to be better adapted to the needs of less developed statistical systems. The SIAP Management Seminar emphasized that the voice of less developed statistical systems needs better representation in global standard-setting forums.

18. The regional dialogues confirmed that modernization concepts and tools are well-suited to facilitate efforts to improve quality through increased data processing speed, application of automated data editing, data imputation, validation, and adjustment procedures. Applying standard business processes also holds the potential for improving the coherence of national datasets through a better consistency of methods across the national statistical system. However, the cost-effectiveness benefit, a key motivator for the work of HLG-BAS, was assessed to be of less immediate priority to some countries in the region due to relatively low labour costs and high costs and scarcity of expertise in information technology and methodology. Therefore, improved quality could be taken up as a key objective of modernization efforts in Asia and the Pacific, and be used as the starting point for related advocacy efforts.

V. Way forward

19. The outcomes and lessons learned from the regional dialogues on the modernization of official statistics point to a possible way forward that involves the following processes: raising awareness and building knowledge within NSIs; and making progress on regional collaboration and influencing global directions.

A. Raising awareness and building knowledge

20. There remains a need to increase understanding among top executives, operational managers and staff of why addressing modernization, in a strategic manner, is an urgent concern for all NSIs.

21. The strategic case for modernization, including opportunities, challenges and implications, needs to be presented in a manner that recognizes different national circumstances, including the nature of each national statistical system and the circumstances of each NSI.

22. The building of a broad base of understanding and support for the case for modernization must be planned and led locally. Given the institutional nature of the changes implied by the modernization process, visible support and strong commitment from the highest level of management is essential.

23. The directions set at the highest level of management will need to be actively supported and reinforced by other champions in the NSI. It may be appropriate, for example, to identify high profile and capable champions from statistical design and production, methodology and information and communication technology (ICT) departments. These champions, who may be respected operationally oriented leaders and discipline experts, would contextualize the messages and directions for other members of their particular group within the organization. In performing their role, champions would benefit from access to other resources, such as corporate communication experts and case studies from other NSIs.

24. While activities need to be planned and led locally, there is much that other member country NSIs and development partners, such as the secretariat, World Bank, Partnership in Statistics for Development in the 21st Century (PARIS21) and Asian Development Bank (ADB) can do to facilitate this process. Such support should be directed towards building local understanding and ensuring maximum return on investment from the outset to maintain high levels of internal support and a shared sense of urgency.

B. Progressing regional collaboration and influencing global directions

25. The regional dialogues held during 2011 and 2012 pointed to the immediate need for the secretariat and members of the Committee to influence global priorities and directions, including ensuring that these are appropriate for national systems that are not altogether similar and at different stages of development. This calls for increased engagement in the HLG-BAS and the technical bodies that are subsidiary to the HLG-BAS.

26. Agencies represented within HLG-BAS are diverse and not only the most advanced (national and international) agencies, which have the most

ambitious grand strategies for modernization within their own agency, are currently in a position to make a leading contribution to the global modernization process. Relatively small agencies, such as Statistics Slovenia, have made pioneering contributions in areas related to the modernization of statistical processes. From the Asia-Pacific region, Statistics New Zealand, whose process model was adapted in 2007 to become the GSBPM, is now a global leader among NSIs in harnessing the Data Documentation Initiative (DDI). In Mexico, the Instituto Nacional de Estadística y Geografía (INEGA) has pioneered systems that are supporting the SDMX, such as publicly accessible web services.

27. Two members of the Committee, Australia and the Republic of Korea, are represented in the HLG-BAS. Moreover, a number of Committee members are involved in the work of MSIS and METIS: Australia; Japan; New Zealand; Republic of Korea; and the Russian Federation. With regard to governance of standards, such as SDMX and DDI, Australia, New Zealand and the Philippines take part. A number of channels for influencing global directions thus already exist. However, the existing channels have, to date, been used primarily to provide input from the individual NSIs rather than to present broader regional considerations. Stronger collaboration is needed to identify, document, analyse and share implementation examples from across the region. Such collaboration is necessary in order to reflect the needs and priorities of NSIs in Asia and the Pacific in a balanced and comprehensive manner.

VI. Proposed immediate steps

28. In order to raise and build awareness and knowledge, facilitate regional collaboration and influence global directions on the modernization of official statistics, the following two steps are proposed: establish a regional cooperation mechanism that consists of an informal regional expert community of national proponents of modernization; and establish a high level strategic body.

A. Expert community

29. The proposed informal expert community of national proponents of modernization would aim at raising awareness and building capacity on the modernization of official statistics in Asia and the Pacific. In addition the expert community would do the following:

(a) The expert community would support the assembly and sharing of documentation, such as practical case studies, and other forms of communication and training materials, such as diagrams, presentations and posters, which can be adapted and used by those who are making the case within and building understanding across each NSI;

(b) The expert community would allow and encourage proponents to share their experiences and strategies. Initially, proponents may feel isolated within their respective national offices. However, an active expert community can affirm and support the role and experiences of local advocates for an urgent and important regional and global change in direction;

(c) Members of the expert community would support the connection between Committee members and expert groups that function within the Conference of European Statisticians, such as MSIS, METIS and

the Sharing Advisory Board, as well as expert groups associated with the use and further development of relevant standards such as SDMX and DDI;

(d) The expert community would be formed and function on an informal basis. It would be constituted by national proponents of modernizing official statistics nominated by NSIs, bearing in mind participants to the recently held regional events, mentioned in Section III of the present document, and the regional segment of the Meeting on the Management of Statistical Information Systems, which is planned to be held from 23 to 25 April 2013;

(e) Without dedicated resources the expert community would carry out its functions through electronic means, such as an online platform or knowledge repository (similar to wiki), to support the exchange of information among members of the network, email and video conferences. Members of the community would use other regional events as opportunities to meet in person.

B. High-level strategic body

30. The proposed high level strategic body would be responsible for driving and supporting change towards the modernization of official statistics in Asia and the Pacific. The membership would comprise a minimum of three to four heads of NSIs and representatives from the expert community. Consideration could be given to Australia and the Republic of Korea to facilitate the link to the work of the HLG-BAS. The proposed body would report to the Committee.

31. In answering the identified need for the region to influence global directions, the high-level body would need to establish how best to interact with HLG-BAS and the expert community in shaping priorities of the region and influencing global directions.

32. Upon its establishment, the high-level body would assume responsibility for initiating the next steps, possibly through commissioning a moderate scale collaboration project. The objective of initial activities could be to demonstrate that the strategic framework for modernization can be applied successfully within the region. The results would be further used in advocating and encouraging other NSIs to strengthen their modernization efforts.

33. Collaboration activities implemented under the guidance of the high-level body could include addressing specific and practical business needs that are relevant to a number of NSIs, taking into account the diversity of the national statistical systems in the region. Activities could assist NSIs in harnessing relevant frameworks such as GSBPM and GSIM or relevant standards such as SDMX and/or DDI. It would be the responsibility of the high-level body to coordinate with the HLG-BAS to avoid duplication with initiatives being undertaken globally.

34. Knowledge and experience of the expert community and resources of members of the Committee would be called upon for selecting, planning, and implementing activities.

35. Subject to identification of adequate resources, possibly through the secondment of a national expert to the Statistics Division of ESCAP, a dedicated secretariat could support the work of the high-level body.

VII. Actions to be taken by the Committee

36. Bearing in mind the lessons learned from recent regional dialogues, the Committee is invited to endorse the establishment of a high-level strategic body responsible for driving and supporting change towards the modernization of official statistics in Asia and the Pacific.

37. Subject to its considerations of the establishment of the high-level strategic body, the Committee may wish to request the secretariat to develop terms of reference for approval by the Bureau, ensuring that the high-level strategic body can commence its operations by the second quarter of 2013.

38. The Committee is also invited to support the formation of the expert community to support, on an informal basis, the assembly and sharing of documentation and other forms of communication and training materials and function as a regional platform for sharing of experiences and strategies.

Annex

Summary of key developments led by the High-level Group for Strategic Developments in Business Architecture in Statistics since December 2010

Strategic Vision (2011)^a

1. The High-level Group for Strategic Developments in Business Architecture in Statistics (HLG-BAS) Strategic Vision was endorsed by the Conference of European Statisticians (CES) in June 2011.^b The HLG-BAS Vision has two focal points:

(a) The product challenge: The revolution in the speed with which large quantity of information is becoming available, in particular through internet and related technologies, is creating new expectations on the part of clients in terms of statistical information products and new ways of combining and using statistical information. NSIs need to rethink their products in order to address changing user needs and remain relevant.

(b) The process challenge: NSIs need to rethink their entire business processes, taking advantage of better standardization of production means and increased automation made possible by new information and communication technologies. Such innovation, leading to more cost effective and more flexible products to answer rapidly changing user needs is only possible through strong collaboration across NSIs.

2. The two challenges are linked. The process challenge must be addressed to free up resources in statistical organizations to address the product challenge, and to be able to deliver new products and services in a flexible, efficient and sustainable manner.

3. The key message of the HLG-BAS Vision can be summarized as follows: statistical organizations have to reinvent their products and processes and adapt to a changed world; the challenges are too daunting for statistical organizations to tackle on their own; and we need to work together.

4. There is a strong relationship between addressing the second goal and addressing the process challenge identified in the HLG-BAS Vision.

Strategy to implement the HLG-BAS Vision (2012)^c

5. The strategy was endorsed by CES in June 2012.^d It provides the high-level plan to deliver the vision. The executive summary of the strategy states: “The execution of the strategy will involve preparing for change, navigating towards big goals while formulating small steps to get there”.^e

^a ECE/CES/2011/1.

^b www.unece.org/fileadmin/DAM/stats/documents/ece/ces/2011/2011.06_CES_report_final.pdf.

^c ECE/CES/2012/10.

^d ECE/CES/83.

^e www.unece.org/fileadmin/DAM/stats/documents/ece/ces/2012/10_-_HLGBAS_Strategy.pdf.

6. The scope of the strategy is the global official statistics community, including national and international statistical organizations. This strategy will also help emerging economies to connect and be part of the wider information society.

7. Key themes outlined in the strategy include the following: statistical organizations need to improve their processes to free up resources for the new developments. This improvement will be done by harmonising our knowledge based on international standards, such as the generic statistical business process model (GSBPM), the generic statistical information model (GSIM) and an alignment of our methods and technology. The first step is the development of the GSIM; the next will be a first outline of a “plug-and-play” architecture in which components can be assembled in different ways, rather like lego blocks. Statistical organizations should create environments that facilitate the reuse and sharing of methods, components, processes and data repositories that not only enable the delivery of predetermined outputs and services but which also enable new products and services to be created more efficiently, as well as enabling end-users to specify and run their own analyses and produce outputs through remote access to underlying datasets.

8. Organizational changes are required to implement this strategy. This will require strategic leadership from top managers. It is recognized, however, that willingness, readiness and ability to change will vary between organizations.

9. The strategy recognizes that ensuring reliable, coherent and timely practical outputs from international collaboration projects will require rigour in terms of project design, planning, management, resourcing and governance on a trans-agency basis.

10. The strategy incorporates the strengths, weaknesses, opportunities and threats (SWOT) analysis of the current situation of the official statistics industry internationally. The SWOT analysis is used to inform the strategy. The SWOT analysis is not specific to UNECE members and may be of interest and relevance to members of ESCAP.

11. It is recognized in the strategy that agencies will seldom, if ever, be able to secure a large pool of resources in addition to the resources they have allocated to existing work which they can use to advance the strategy. It is therefore essential to the success of the strategy that existing investments in international collaboration activities be prioritized, harnessed and aligned with the strategy to maximize the contribution of each individual collaborative activity to progress towards delivering the vision.

12. HLG-BAS operates under the auspices of the CES. While HLG-BAS oversees a number of expert collaboration groups and projects under the CES, many other international collaboration initiatives take place under different governance structures, which is independent of the CES. Successfully engaging other transnational organizations and forums to agree on shared goals and priorities, and on the means by which these goals and priorities will be addressed in practice, is recognized as a critical success factor for the strategy.

13. HLG-BAS specifically recognizes the role and importance of ESCAP in this regard. For example:

(a) The outcomes of the expert group on opportunities and advantages of enhanced collaboration on statistical information management in Asia and the Pacific have been acknowledged as part of the work of international groups external to the CES.^f

(b) The development of the generic statistical information model (GSIM), sponsored by HLG-BAS as a top priority, benefited from ESCAP contributing to GSIM Sprint 2 in April 2012. Statistics Korea (KOSTAT) agreed to host GSIM Sprint 2 as an international collaboration event.

(c) Subsequent to GSIM Sprint 2, the Commissioner of KOSTAT joined HLG-BAS, which doubled the representation of ESCAP members within HLG-BAS. The Chief Statistician from Australia is also a member of HLG-BAS.

GSIM Development Project (2012)^g

14. Prior to describing the approach HLG-BAS has taken to sponsoring development of GSIM, it is important to understand what GSIM is, how it relates to implementation standards and technologies, and the contribution it makes to facilitating consistent progress on modernization of official statistics.

15. What is GSIM? GSIM is a reference framework of information objects, which enables generic descriptions of the definition, management, and use of data and metadata throughout the statistical production process. GSIM provides common semantics for data and metadata, which can be used by statistical business staff, methodologists and ICT professionals.

16. What is the relationship between GSIM and implementation standards and technologies? GSIM aligns with relevant implementation standards, such as DDI and SDMX, but it does not force agencies to use those implementation standards. If agencies do use relevant implementation standards in combination with GSIM, however, implementation can progress at a business and technical level in a manner that is faster and better integrated than if GSIM were used without the implementation standards, or vice versa.

17. GSIM is also not tied to specific technologies or other specific implementation details. Use of GSIM, particularly in conjunction with relevant implementation standards, should make it easier, however, for agencies to share and reuse technology solutions and other implementation details.

18. What is the relevance of GSIM to progressing modernization of official statistics? Clearly defined and shared semantics are vital, as when subject matter statisticians describe the business requirements and business workflows that new statistical and information and communication technology (ICT) solutions need to support.

19. The common semantics also provide a consistent and well-defined basis for describing and managing the relationship between two or more existing statistical or ICT solutions at a logical level even where the

^f www1.unece.org/stat/platform/display/msis/Inventory+of+International+Groups.

^g [www1.unece.org/stat/platform/display/metis/Generic+Statistical+Information+Model+\(GSIM\)](http://www1.unece.org/stat/platform/display/metis/Generic+Statistical+Information+Model+(GSIM)).

implementation details for each solution are very different. This is important in various cases, such as when existing solutions with different implementation details are being used to support two different, but connected, sub-processes in the GSBPM. There is a need to ensure data and metadata is flowing between the two processes in a consistent manner. On this point, a solution in current use is being compared with a possible replacement capability delivered through international collaboration. The impact on flow of data and metadata through the relevant process step needs to be assessed.

20. Agreed semantics are a prerequisite for enabling consistent and efficient progress on modernization. Agreed semantics should extend across the different disciplines that need to collaborate within a single NSI (statistical business staff, methodologists and ICT professionals) and across different NSIs that want to collaborate.

21. HLG-BAS sponsored the development of GSIM.^h Early in 2011, GSIM was identified as a cornerstone of the HLG-BAS Strategic Vision. At that time it was at a very early stage of development, especially compared to its fellow conceptual framework, the generic statistical business process model (GSBPM).

22. Several initiatives and agencies that are currently seeking to progress modernization in practice participated in the annual priority setting workshop convened by HLG-BAS in November 2011. Many of these groups identified a critical path dependency on GSIM being sufficiently defined and stable, so it could be harnessed as a common reference framework for their modelling of statistical information.

23. HLG-BAS recognized the urgency of developing GSIM to a point where it can be applied in practice to support modernization. The initiation of the GSIM Sprint process by HLG-BAS towards the end of 2011 represented an innovative and strong response to this urgent priority.

24. The term “Sprint” originates from the agile development process and has characteristics which include: collaboration of multi-disciplinary experts; a “time-boxed” period of work (meaning that it is to be undertaken within a set period of time); and a closely defined and agreed output that is “potentially shippable” (meaning that it stands in its own right, as a tested and useable output, even if it is recognized that further work may be warranted to improve the product).

25. For GSIM, there were two Sprints, each lasting two weeks. The program for each Sprint was designed by an expert facilitator, in consultation with HLG-BAS members and relevant disciplinary experts. The consultant then facilitated the Sprint itself.

26. The Sprint process proved very effective in accelerating progress, including establishing a deep and shared understanding among participants and practical agreement on directions for moving forward. Public review periods for the outputs from each Sprint allowed input from a range of experts and other stakeholders who were not able to attend the Sprint in person. Public review helped ensure the conclusions from each Sprint were

^h www.unecce.org/fileadmin/DAM/stats/documents/ece/ces/ge.50/2012/02_Australia.pdf.

communicated in a way that was sufficiently precise and logically presented for non-participants to understand.

27. Among other outputs the GSIM Sprint process delivered a roadmap and business plan for completing and releasing GSIM V1.0 by December 2012. The road map identified 10 high-level project activities which would be required and documented the required working, project management and governance processes and how they would be resourced. Members of HLG-BAS, with their top-level profile and influence, ensured that sufficient resource commitments were secured from leading experts from around the world whose availability was vital to the successful implementation of the plan. A full time project manager was appointed and a high-level steering committee was designated to support her.

28. The process of developing GSIM is a pioneering example of the type of collaboration across the official statistics industry which HLG-BAS seeks to foster in future. Possible features include: the use of Sprints to build early coherence in terms of scope and directions (and in terms of relationships between team members; developing, agreeing and implementing business plans; and ensuring effective project management, such as risk and issue management, monitoring and governance to support implementation of the business plan.
