



Report

Second International Biennial Conference on Early Childhood Care and Education

Big Data for Small Children: Monitoring Holistic Early Childhood Development

21 to 23 February 2019

Republic of Seychelles



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ACRONYMS

AR	Augmented Reality
ADEA	Association for the Development of Education in Africa
ADCA	Australian Early Development Census
CEO	Chief Executive Officer
DDST	Denver Developmental Screening Test
EC	Early Childhood
ECCE	Early Childhood Care and Education
ECE	Early Childhood Education
ECD	Early Childhood Development
ECDA	Early Childhood Development Agency
EFA	Education for All
eHDI	Early Human Capability index
EMIS	Education Management Information System

GEQAF	General Education System Quality Analysis/Diagnosis Framework
HECDI	Holistic Early Childhood Development Index
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
JFA	Joint Framework for Action
IBE	International Bureau of Education
ICT	Information Communication Technology
IECD	Institute of Early Childhood Development
UNESCO	United Nations Educational, Scientific and Cultural Organization
MDG	Millennium Development Goal
NPEAIS	National Pre-School Education Management Administration System
NTUC	National Trades Union Congress
PADB	Biophysical Development Support Program

SADC	Southern African Development Community
SABER ECD	Systems Approach for Better Educational for Better Education
SACMEQ	Southern and East Africa Consortium for Monitoring Educational Quality
SBC	Seychelles Broadcasting Corporation
SDG	Sustainable Development Goals
SELF	Seychelles Early Learning Framework
SMS	Short Message Service
UNICEF	United Nations Children's Fund
UNDP	United Nations Development Programme
WHO	World Health Organization



INTRODUCTION

In 2011 Seychelles staged the first conference on Early Childhood Care and Education under the theme “Starting Strong: Winning for Children” in which The Seychelles ECCE Framework was endorsed. In 2013, the second Biennial ECCE Conference was conceived: The implementation of national ECCE structures and activities were publicised and discussed, the first National Action Plan was validated, and the Institute of Early Childhood Development confirmed its status as an ECCE institution. In 2015, the Third Biennial Conference was convened. This was a celebration of the achievements of ECCE in Seychelles, to discuss sectoral and cross-sectoral progress, to consolidate the collaborative process, and to solicit partnership arrangements with organisations and individuals with strong interest in the well-being of Seychellois children. In 2017, the First International Biennial Conference on Early Childhood Care and Education was set up to launch Seychelles as a global hub for ECCE and to gain international commitment to renew efforts in promoting holistic early childhood development. The Second International Conference on Early Childhood Care and Education with the theme of “Big Data for Small Children” explored the development of data systems to monitor ECCE provision.

This event brought together over 120 national professionals, over 60 international delegates and speakers on data management in the context of ECCE, from more than 20 countries. Co-convened by IBE-UNESCO and IECD, the conference was organised in collaboration with the High Level ECCE Policy Committee in Seychelles, and key ECCE Sectors, namely, Education, Health, Community Development and Social Affairs. Through the thematic framework of “Big Data for Small Children: Monitoring Holistic Early Childhood Development” the conference provided the opportunity to share knowledge and practices, expand on experiences, encourage peer interaction, and agree on strategies to utilise data to strengthen and sustain resilient ECCE systems in Member States.

This report captures the three-day programme and associated side events of the conference which was held on the 21st to 23rd February 2019. The official launching on the first day and the ensuing presentations, consultative dialogue, and panel discussion on the second and third day have been synthesized to provide an overall view of the conference proceedings.

DAY 1: THE OPENING CEREMONY

The conference began with the entrance of the President of the Republic of Seychelles and the observation of protocol of the National Anthem. The programme for the opening ceremony consisted of welcoming formalities and opening remarks and the Keynote Address. Two speakers presented stimulating information on innovative technology in pre-school classrooms and advanced data systems for monitoring ECCE that culminated into a high level panel intervention.

Welcoming Remarks

Mrs. Jeanne Simeon, The Minister of Education & Human Resource Development welcomed the delegates and noted the inspiring international representation. She highlighted the global interest in maintaining the momentum of the biennial conference and the steadfast support of the Head of State for his unwavering support and commitment to the development of quality ECCE in Seychelles. She valued the conference as a unique platform for national and international interchange on the status of ECCE and, in this conference, on the theme “Big Data for Small Children: Monitoring Early Childhood Development”.

Mrs. Simeon reminded delegates that this conference will be addressing data management, a prominent and critical area in ECCE. The need to harness the predictive power of data to strengthen the legal, financial, institutional, and monitoring framework was emphasised as data has been referred to as the lifeblood of decision making and the raw material of accountability. She informed the delegates that some work has started in the Health Sector in Seychelles to collect and analyse data to improve the policy environment for monitoring and reporting. She was convinced that through the conference that there will be opportunities to share progress, experiences and the main outcomes of the evaluation report to guide the way forward.

She conveyed her good wishes that the delegates will have an enriching and inspiring 3-day experience and gain further knowledge to tap into data management for the benefit of the young children.

Opening Address

In his opening address, His Excellency, the Vice President of Seychelles, Mr. Vincent Meriton thanked the delegates, local participants, international speakers and experts for their attendance. She acknowledged the privileged presence of Dr. Marope, Director of the IBE UNESCO and expressed his gratitude for her continuous collaboration and for accompanying Seychelles on the ECCE journey.

In this digital age, the Vice President reminded delegates of the speed and efficiency in collecting, analysing, and sharing data. This revolution in data management should be used to identify information gaps in ECCE to monitor the effectiveness of services and programmes, to provide clear and credible evidence for policy and decision making, and for international reporting. He sincerely wished that the participation of international experts and renown practitioners from

diverse background in the conference will help to strengthen the data management process, and data usage and availability for the holistic development of children. He noted that local research activities from the National Action Plan for ECCE have raised new awareness of the opportunities provided by collecting and managing data in child health and development. Quality ECCE provisions have the potential to transform our society, he said, and data is necessary to make sense of children's development opportunities.

He indicated that rapid strides have been made in the development of ECCE in Seychelles. The development of the national ECCE framework was the first occasion to bring together a multi-disciplinary group which was a springboard for ECCE actions. In 2017, Seychelles was designated as an "ECCE Good Practice Hub" and it is anticipated that it will be promoted to a Category II IBE Institution thus widening its regional and global scope. He underlined that Seychelles has made tremendous progress from the Moscow Declaration and he shared his optimism on the way forward. He thanked IBE UNESCO and IECD for hosting the conference, the Conference Organising Committee for their dedication and hard work, the ECCE Sectors for their contribution and all partners for their devotion, and declared the conference open.

Keynote Address

Dr. Mmansetsa Marope, the Director of UNESCO-International Bureau of Education in delivering the keynote address, paid homage to His Excellency, The President of the Republic of Seychelles, Mr. Danny Faure who as then Vice President led the Seychelles delegation at the Moscow Conference, closed the conference and pronounced on his commitment to promote the holistic development of children in Seychelles. By his determined and unwavering leadership he has inspired the nation with the holistic theme of the conference and has been an exemplar to the global community in the implementation of quality development in ECCE. This has led to the recognition of Seychelles, by IBE, World Bank, ADEA as a "Best Practice Hub".

Dr. Marope referred to the First Biennial International Conference on ECCE when she explored the theme of resilience and the need for a systemic approach to ECCE. She, then, departed with a call for Member States to build resilient ECCE system in their countries as foundation for human development. She noted that Seychelles has been doing quite well on the Human Capital Index. However, this raises the stake for Seychelles to become more focused on human resource accumulation with the compelling need to reconnect with the resilient system. For this to happen, she maintained, data is needed to track and monitor impact, and big data can become the blood life of holistic decision making although their usage carries heavy ethical responsibilities.

In outlining the key markers of big data, that is, velocity, variety, multiplicity - Dr. Marope cautioned delegates of the overwhelming consequences of information overload. But through access to a human resource base with the necessary infrastructural arrangements and technical know-how the data can be selected and analysed to predict risk, pre-empt and mitigate adverse conditions affecting children and this was the very reason in making the analogy between big data and small children. She explained that there are enormous volume of data in Health and Education

but there is a need for more data in Parenting, Social Protection, and Legal Rights to capture real time data on ECCE. Priorities need to be established on what data to capture consistently, with veracity and longitudinally for equity and quality in ECCE. She concluded with the statement that our children deserve big data and all its potential.

Presidential Highlighted Panel & Moderated Dialogue: Big Data for Human Development

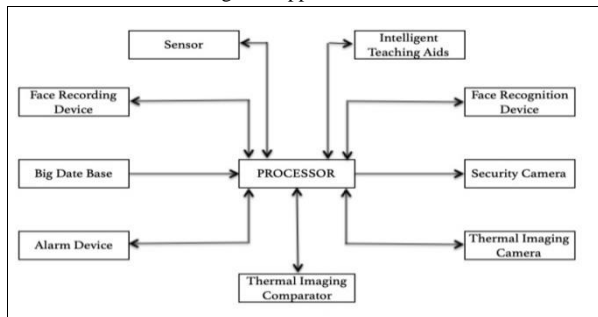
The second part of the opening ceremony consisted of presentations by two international experts from China and Sweden on big data system followed by a high level panel moderated by the Chair of the High Level ECCE Policy Committee.

How Big Data Transforms Early Childhood Education and Improves the Intelligence of Teaching Aids

Mr. Xiong Jianming, CEO of YoungZone Corp – NEOBEAR, started his presentation with an introduction to the educational technology company headquartered in Shanghai, China. The company is geared towards the development of intelligence technology in early childhood education and the release of a variety of highly successful Augmented Reality (AR) Technology products based on interactive entertainment.

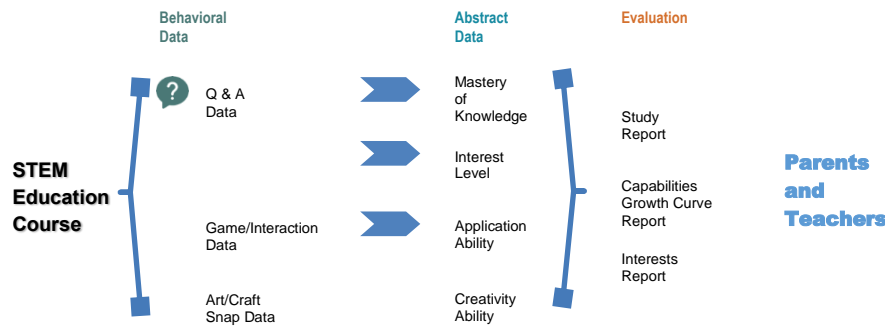
He presented a futuristic classroom scenario in which big data is used as teaching and learning support where every child is monitored and tracked with sensors. He provided examples of health issues such as “rising body temperature” interactive sequences such as two children arguing repeatedly, behavioural actions such as toilet training, children’s likes and dislikes, reading habits, and communication skills. The teacher would be able to make real time intervention, pre-empt supportive action planning activities.

Perfect classroom with big data application



In addition, Mr.Jianming introduced a range of Augmented Reality behavioural and teaching aids. The Intelligent Water Bottle, for example, can provide drinking data to monitor drinking habit. Children can use AR Learning Cards, Colouring Books, Globe and Magnifier for observation and discovery. Moreover, application of big data for reporting was also proposed.

Big Data Technology in Personal Evaluation and Reporting System



In presenting creative brand of technology as part of the big data usage, Mr. Janming showed how Augmented Reality Teaching Aids could be used to transform teaching and learning in Early Childhood Education. However he cautioned that timing, teacher and parent control may be necessary to mitigate the negative effects of digital virtual materials.

Data system of preschools in Sweden

The Executive Educational Director, in the Preschool Department of the Municipality, Ina Linden made a preliminary presentation on data collection in Sweden. She traced the development of the data system in Sweden from 1930 with handwritten health data to 2010 with teacher data. She pointed out that the data system is used to support policymakers and leaders in the creation of a sustainable and resilient ECCE system. She remarked that the data in Sweden is owned, controlled, protected, and maintained by the government although the data system is decentralised to allow handling of critical issues at the local level without affecting the whole system. She specified the kind of data which are collected for education: Data are collected on children and parent for targeted action and on school results for planning and development.



High Level Panel Dialogue

This session on “Big Data and Human Development” was moderated by Mrs. Macsuzy Mondon, Designated Minister and Chairperson of High Level ECCE Committee in Seychelles. Mrs. Mondon provided information on data management project in the Health Sector initiated by IECD and requested contribution from member states on the panel. The main points addressed were: the need for legal control to define collection and usage of data; the democratisation of data whilst taking in consideration ownership and ethical issues; effective management and contextualization

of data; accommodating interpersonal aspect of communication with the virtual digital interchange of information; the high cost of software products from private enterprise and financial support from governments



DAY 2: MAIN CONFERENCE

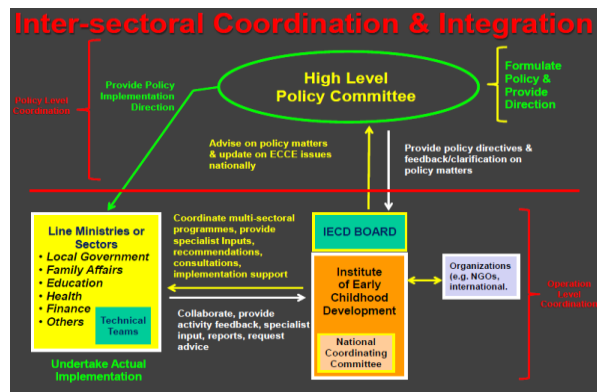
The programme for the day started with the welcoming remarks of the Minister of Health in Seychelles, Mr. Jean-Paul Adam underlined the critical importance of systematizing data for ECCE. He described the gathering of experts and professionals as ambitious and laudable in their commitment to domesticate big figures and to answer the human capital challenge. He admitted that the calculation of our maternal mortality statistics, for example, may need revision as they are calculated per thousand inhabitants and the population of Seychelles is less than 100,000. There is a need to harness big data for small children for more individualised representation of the statistics. After listing achievements concerning immunization and the reduction of risk factors in communicable diseases, Mr. Adam emphasised that reliable data and technical human capacity is needed for policy decision and investment especially to meet the challenges of non-communicable disease. He admitted that the mainstreaming of the data management process initiated by IECD would improve the situation in the identification of risk factors. However, the setting up of the Health Information System planned for 2019 would play a key role in the health care service. A more coherent technological approach to measure outcomes will ensure that the right data is collected at the right time. He stressed, however, that addressing the issue of non-communicable disease require complex teamwork, partnership, and incentives. Non-communicable disease in the context of ECCE cannot be overestimated since this is where big data will have maximum impact for everyone to have the best start.

The morning programme included presentations from Mrs. Shirley Choppy, Chief Executive Officer of the Institute of Early Childhood Development, Dr. Mmantsetsa Marope as Director of the International Bureau of Education-UNESCO, Professor Katsuki Sakuaue from Japan, Dr. Linden Durtenbach from Swenden. Dr. Meggie Louange, the Director of General Public Health from Seychelles moderated the Question and Answer Session which followed. The programme ended with a roundtable discussion moderated by Mr. Cristian Fabbi from IBE-UNESCO.

Institutional Framework

In her presentation Mrs. Shirley Choppy, Chief Executive Officer at the Institute of Early Childhood Development in Seychelles set the background of the Seychelles Institutional Framework from the UNESCO World Conference on ECCE which resulted in the development of the national policy framework to the establishment of an institutional structure promoting an integrated approach to ECCE. Mrs. Choppy outlined the main institutional roles of organisations within the ECCE system: the High Level ECCE Policy Committee for policy direction; Sector-based Technical Team for implementation; National ECCE Trust Fund for financial support; the Institute of Early Childhood Development for regulation, coordination and advocacy; and the National Coordinating Committee for ECCE for monitoring. Mrs. Choppy ended her presentation by highlighting the effectiveness of such a model: commitment through political and technical leadership, increased coordination synergy, strengthened collaboration, targeted monitoring,

improved service delivery, increased understanding of ECCE concepts, and facilitative interchange and interaction.



Legal Framework

Dr. Marope, Director IBE-UNESCO outlined global framework which formed the international legal foundation for early Childhood Care and Education: 1924 Declaration of the Rights of the Child (Geneva Declaration), 1948 universal declaration of human rights, 1956 International Covenant on Economic, Social and Cultural Rights, 1959 DECLARATION OF THE RIGHTS OF THE CHILD (Principles 5, 7 &9), 1973 ILO Convention No. 138 of the Minimum Age of Employment, 1989 The United Nations Convention on the Rights of the Child (CRC), 1999 ILO convention No. 182 on the Prohibition and Immediate Action for the Elimination of the Worst Forms of Child Labour. She then went on to explain UNESCO's compliance structure and processes when reports are expected every four years and committee meetings are held twice a year.

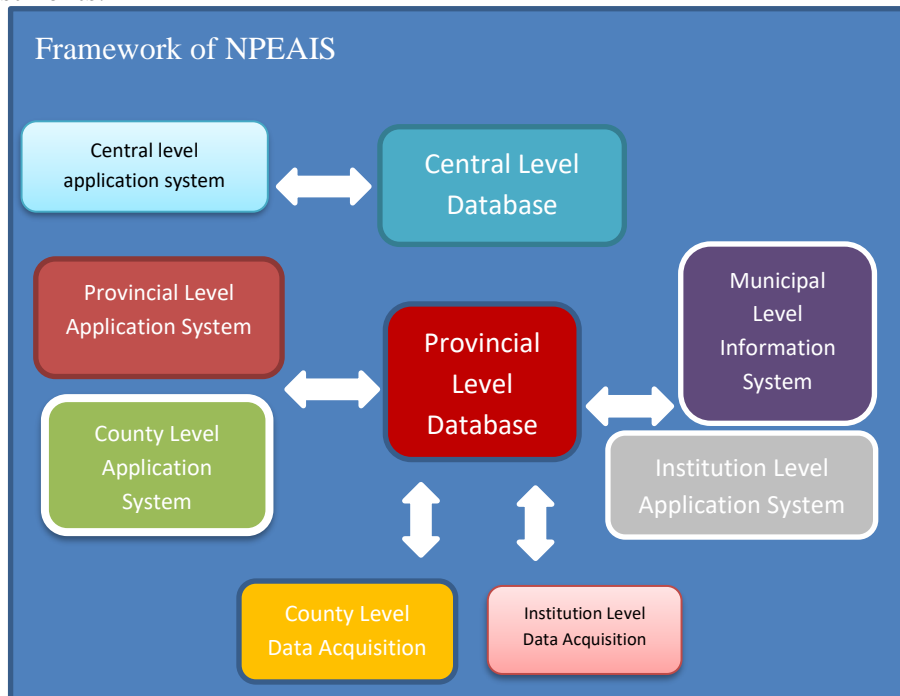
Furthermore, Dr. Marope identified some of the child and ECCE focus on International Agreed Goals such as EFA, MDG, and SDG and outcomes of conferences and forums in particular the 2010 Moscow Framework for Action and Cooperation and the World Education Forum in 2015. She added that there are also national legal instruments such as the Constitution, Sector Level Acts, and ECCE-specific legal instruments which underpin ECCE. She concluded by stressing the importance of enforcing the instrument and of reporting on that enforcement or otherwise.

Policy Framework

Dr. Liang-jing Guo, School of Educational Science, Nanjing Normal University, China presented China as a big unevenly developed country with an extensive land mass (9.6 million square kilometers) and a very large population (1.39 billion). It is divided into 23 provinces and has over 55 ethnic groups and about 300 living languages.

She located pre-school education (3-6) within the education system and informed delegates of the massive government financial investment since 2013 and resultant increase in pre-schools (both private and government) from about 3,000 in 2009 to about 4000 in 2014, and subsequent increase

in enrolment rate. With such background, the government needed big data to manage programmes and investments.



Dr. Guo introduced the National Pre-School Education Management Administration System (NPEAIS) with five level of application, central, provincial, municipal, county, pre-school institutional and two categories of data: basic data on pre-school education (such as structural conditions, expenditure, funding, child family subsidies, children migration, left-behind children); and data on national major programmes concerning pre-school education since 2010 (they include re-construction subsidy, development awards for fees, grant subsidies, teacher training projects).

She concluded by stressing the importance of comprehensive and regularly collected data for evidenced-based policy decision. She also outlined the advantage of having central government control that would be conducive to data sharing, microscopic control, and policy advocacy when necessary: this will help to avoid duplication of hardware construction, incompatibility of systems, and inconsistency of indicators. She emphasised the necessity to improve information literacy of decision-makers at all levels and recommended the formulation of regulations for data acquisition, security processes, and effective usage.

However, she mentioned that issues of data reliability, data security management, focalized goal-oriented data analysis for children (not about children), and most importantly, expanding indicators for child development outcomes, and interaction with parents, teachers and children, still require attention. To conclude Dr. Guo informed the delegates about the regulatory and security legal instruments, and the training documents, manuals and videos.

Programmatic Framework

Dr. Ina Linden, Executive Educational Director, in the Preschool Department of the Municipality of Gothenburg made a preliminary presentation on the Programmatic Framework as a base for planning in Sweden. With a large immigrant population, mainly from Middle Eastern countries, she made the point that the original ethnogenic society of Sweden has changed considerably and programming is critical for targeted allocation of resources.

She then described the organisation of pre-schools in Sweden which consists of municipal pre-schools, private pre-schools, family day care, family centres. These pre-schools are operational from 6am to 7pm, and there are also 24-hour service facilities. Children attend pre-school from the age of 1 year, before that they can attend family centres. Dr. Lindern confirmed that in Sweden there is a holistic view of pre-school that seeks to integrate the legal, social care, health and nutrition, culture, child protection, and education aspects for the benefit of the child.

She introduced delegates to the national curriculum in pre-schools which is grounded in a socio-cultural perspective, integrates child's rights to learn with play and the child's own interest and curiosity, and adopts an experienced-based approach with a focus on dialogue and communication. Curriculum goals are aimed at teachers such as what stimulation, challenges, opportunities the teacher organise for the children. Dr. Lindern explained that the results in Swedish preschools relate to the multitude of possibilities offered to children in a systematic way based on their interests and the curriculum goals.

With reference to data in education, she outlined the use of state registers in Sweden to collect numerical information on habitation, individuals and groups, parent's properties and school results. These data are used to increase understanding and to distribute and direct resources. She further specified the main uses of the register data in Gothenburg for planning building, staffing and training, school placement, budget and fees; to secure parents rights to childcare and children's rights to education, and for quality assurance (both structural and process) with easily accessible data systems as part of the programmatic framework. This information is supported by complementary data on health, nutrition, social, protection, and on the cultural and legal aspects. Dr. Lindern reassured delegates that data is controlled through the data secrecy policy so that data cannot be used on an individual basis.

In conclusion, she shared the information through graphs and charts on budget distribution according to socio-economic variables, demographics of children per districts, prognosis and outcome, population forecast, and occupancy rate.

Financing Framework

Dr. Katsuki Sakaue, Research Fellow, Osaka University, Japan elaborated on the importance of financing data for ECCE. He explained how spending on data collection, as a strategic investment, can lead to savings in finances and resources, improved utilisation of funds, and improved quality of services. He gave the example of Uganda in 1996 when through public spending tracking survey

it was found that only 13 percent of public funds reached the schools. Publishing the monthly transfer of public funds led to an increase up to 80 percent of approved education funds.

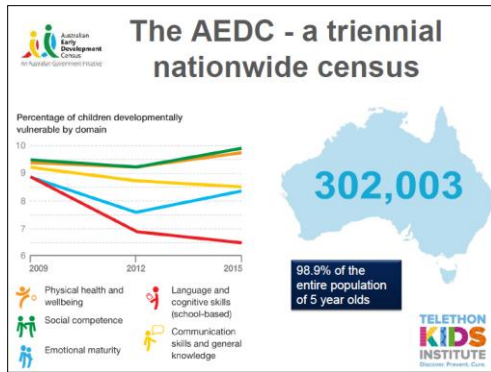
Moreover, Dr. Katsuki explained how evaluation measures of data demand, collection, availability and utilisation in a well-designed system can help to identify and fix bottlenecks. He admitted that strong evidence of returns on ECCE would increase government commitment and help the subsector to find more cost effective ways of spending. Results from SABER ECD showed that most of the funding for ECCE has been from the government. Dr. Sakaue suggested that the financing of data for ECCE should be based on three principles: adequacy (at least 1% of the budget); efficiency in utilising existing and administrative data by having a unified system and building data collection into routine administrative tasks; designing data collection system with a long-term agenda and applying ICT; and sustaining the system through institutionalization or mainstreaming so that funding is not affected by political events or administrative leadership.

He concluded by citing two country studies as case studies of successful data utilisation in ECCE: Japan by introducing a unified data collection system; Chile as the best system with basic administrative and financial framework complemented by Biopsychosocial Development Support Program (PADB) that tracks the individual development of children with an online system.

Monitoring and Evaluation Framework

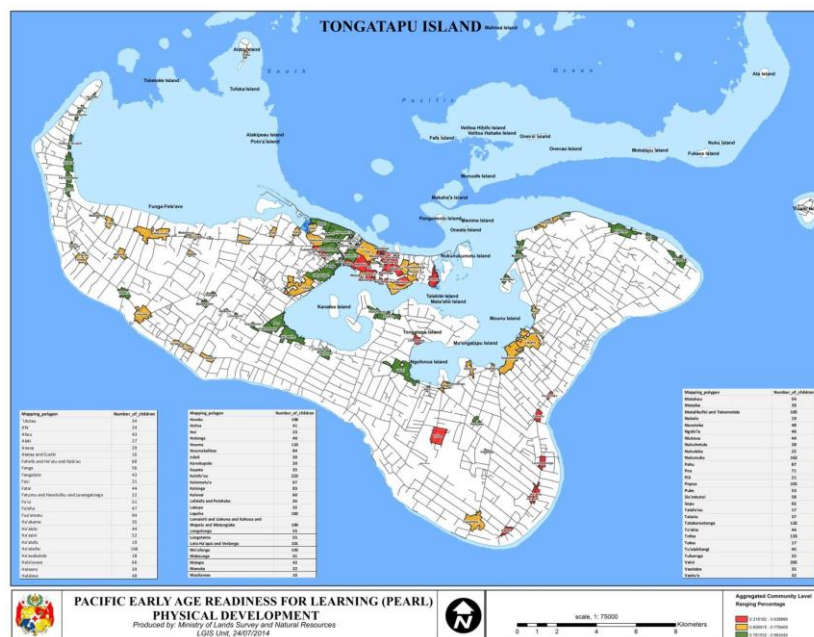
Professor Sally Brinkman from the University of Adelaide, Australia, started her presentation by referring to two of her favourite examples of providing detailed, specific local level, holistic child development information for children and communities across the whole of Australia and the whole of Tonga. In reporting against the Sustainable Development Goal 4.2, she discussed about measurement options in developing a set of tools for monitoring and evaluation of ECCE. First, there can be one measure which can be used anywhere, this may be useful for international comparison but they may not suit the local context. Second, there are is a common core of items which can be culturally adaptable. Third, there are common constructs, that is, the construct can be matched although the items vary. Fourth, item banking where there are lots of items with little commonality between them. The measure developed for the two countries, Australia and Tonga is country specific, adapted to the local context but containing key items for international comparison.

She explained although there have been lots of new measures of ECD outcomes in the last ten years, there has been limitations in their use because they are costly, culture-bias, deficit-based, and non-predictive. She gave an example of the overlap between instruments and placed them in three categories: direct assessment; screening/diagnostic, and survey/teacher responses.



Professor Brinkman highlighted the two important aspects of a child development measures: they should be valid with strong predictive reliability and sensitive to change; they should capture developmental delays as well as capabilities and, relevant to culture policy and practice; they should only include “intervenable” aspects of development and they should be child-friendly, holistic and pragmatic. She elaborated on two examples using the census approach: the Australian Early Development Census (AEDC) and the Early Human Capability Index.

The aim of the AEDC is to support communities to bring long-term benefits to children and their families. Four domains: physical health and well being, social competence, emotional maturity, language and cognitive skills, communication skills and general knowledge, have been adapted from generally accepted “western domains” of child development. It is a triennial census which can provide a measure of the percentage of children who are developmentally vulnerable in the four domains. The AEDC is the national progress measure for child development. It allows for consistency of approach, focus for collaborations, a sound basis for strategic planning, and policy creation and evaluation.



For the eHDI census carried out in Tonga 2014 and 2017 for every child aged 3-4 years across the 54 islands, nine domains were developed to study school readiness. These domains were adapted and extended for cultural fit. They are physical health and wellbeing, approaches to learning, language and cognitive, perseverance, communication skills, emotional maturity, social competence, and cultural identity. The results were mapped for population monitoring and impact evaluation. Professor Brinkman informed the delegates that the eHDI is being used in 11 countries.

Question and Answer

The Question and Answer Session was moderated by Dr. Meggie Louange, Director, General Public Health Authority in Seychelles.

The Ambassador for Women and Children from Seychelles suggested that Seychelles as an archipelago, with a small population, steady birthrate, and cultural identity could adopt the census type survey model as applied in Tonga, to collect data on ECCE and report biennially or triennially.

South Africa was concerned about the connection between the varying countries legislative framework and the laws on children, the link between policy framework and programme development, integration of the roles of the different ministries, and interpreting the definition of the family, and collecting data from pregnant women.

With regards to the legislative framework, it was pointed out that in China in order to accommodate the very large number of children the data system is constructed and coordinated by the central government. This takes into consideration the family, housing, nutrition, and educational intake. In this way, from the very beginning the data collection process will become more consistent with unified indicators and infrastructure and would provide holistic information on every child. It was discussed that the system can be coordinated by one ministry as well, although in many instances there can be a competing ministries.

Concerning policy framework, it was discussed that analysis is a key to understanding the data. This demands the collaboration of all authorities so that policy decision can be made and resources can be re-directed. It was also affirmed that the role of culture has been very much underplayed. It was important to take into consideration, geographic location, language and the family unit in the analysis of early childhood development data. Dr. Brinkman also emphasised the importance of culture in the Tonga Project. She described the people of Tonga as a proud nation which had not been colonized and that some of the specific culture value items were very powerful in predicting success in primary schools.

The Chief Executive from the Institute of Early Childhood Development explained how IECD as a coordinating body through collaborative action planning have made tremendous progress in prioritizing policy areas from the policy framework and developing strategies through projects and programmes to implement ECCE policies, monitor and evaluate the national action plan. She also had the opportunity to describe the three main challenges - finance, human capacity - especially

researchers - and consistency in the implementation of the plan across sectors. She invited member state to interact with the Institute for sharing and guidance.

In response to the question on the apparent contradiction between secrecy and openness in data management system in Sweden, and the situation concerning health and nutrition data, Dr. Ina Linden clarified that data is collected at an individual level and reported at group level. Thus secrecy is related to individual results whilst the results on groups are open. She also admitted that specific data on nutrition is not collected although there is a nutrition plan and the content of daily meals is monitored. However, data on growth and weight is collected in the health service and an index is calculated and is available.

The connection between the UNICEF survey such and eHDI was also addressed. Dr Ina Linden explained that the UNICEF survey provided just a quick snapshot and was used to make comparisons between countries but it was never intended to monitor the holistic development of children. Anyway, ten items from the UNICEF survey have been included in the eHDI, therefore, comparison can still be made. Just the same, the number of items in the instrument varies for each country depending on the development level of the country, for example, those for China include 90-100 items.

Virtual Tour of Seychelles Health Sector

The illustrative video presentation assembled highlights from the Data Management Project. It featured the Technical Team from IECD who led the project, the data collection team from the Health Care Agency and the Local Consultant, Mr. Egbert Benstrong who undertook the training and carried out the analysis.

After explaining the necessity to systematize the large amount of data which were collected in the Health Sector, Mr. Benstrong traced the trajectory of the project from the development of an indicator directory in collaboration with the Ministry of Health and the technical assistant from the World Bank, to the piloting and analysis process when it was possible to establish stunting, wasting, exclusive breastfeeding, and over-weight prevalence among the 0 – 5 years old.

With subsequent interviews of technical team members who directed the project, data collectors who were professionals delivering maternal child health services, the statistics personnel from the Ministry of Health who participated in archiving the data, and senior managers who provided administrative and human resource support, the collaborative process was exemplified and value of the project was acknowledged in providing the Ministry of Health's Management and the Nutrition Team with a platform for intervention and an agenda for action.

Data Management in the Classroom

After quoting a definition of 'Big Data' as "any set of data that is so large or so complex that conventional applications are not adequate to process them", Mrs. Sherylin Sia from Singapore introduced the four V's of 'Big Data' – volume, veracity, variety, veracity. She explained that 'Big

Data' is important in Early Childhood Education because the information revealed can be translated into actions that can improve decision-making and performance.

She emphasised that big data brings with it big responsibilities. She explained that while open source software is available, one needs to be mindful also of financial component in using big data in early childhood especially if one opts for commercial software. Other financial implications include data management software and IT infrastructure. She acknowledged though that perhaps the biggest cost element is the human resource factor as big data in EC will involve parents, teachers, and children. There are also challenges in deciding what data to use in classroom environment, adhering to data collection principles, overcoming teacher resistance, and utilizing the data productively.

By illustrating two differently resourced classroom environments, Mrs. Sia highlighted the factors that could impact on outcomes, independent of the quality of environment. These are the quality of the human resources; pedagogical issues (resources, aids available); and learning and assessment. The challenge she went on is to isolate contributory factors and explain differences in outcomes. This can be done by using a standardised approach to resource provision and through the extraction of factors assisted by the use of technology.

Data in early childhood settings

Mr. Aniruddh Gupta, from India, gave a snapshot of the data system that he is responsible for developing in a chain of pre-schools and nurseries in five different countries. In summarizing some of the previous presentations, he reiterated the concern about collecting data on children.

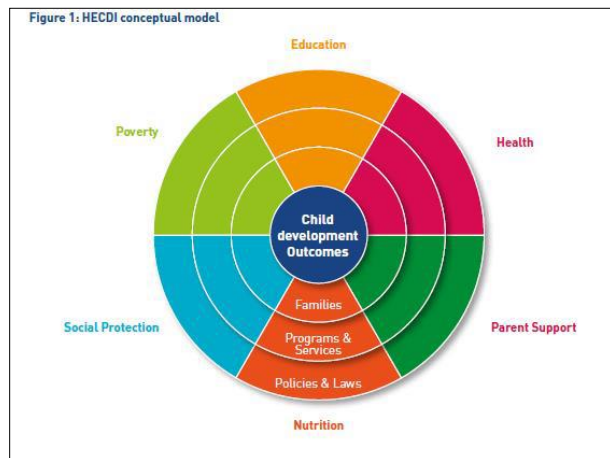
As a follow-up, he gave an update on how he has begun to address that by defining why data is being collected – to improve the delivery of early childhood practice; what are being measured such as human resource capacity, pedagogy, quality of operations; and how is the data captured- by creating a detailed standardised system for lesson planning, observation and assessment, standard training, and classroom design and resources. Then technology is used to implement the system and collect data, overtime, (through the use of sensors) from teachers, parents, and the children themselves.

A comprehensive application based on quality review is used to analyse the data and scores can be calculated for each school. By taking into consideration the contributory influence of extracted factors, areas of problems would emerge for action or good practice approaches can be isolated and adopted.

Holistic Early Childhood Development Index (HECDI)

The HECDI as presented by Dr. Sally Brinkman from Australia was first proposed in the UNESCO Conference in 2010. After extensive consultation, a framework was developed in 2014, and it includes targets, sub-targets and proposed indicators identified in domains of health, nutrition, education, social protection, poverty and parent support. The challenge is to combine the 20 sub-

targets or indicators into one single index that lies between 0 and 1 where 1 is the best possible and 0 is the worst possible.



Dr. Brinkman gave a brief summary of how the HECDI is calculated. She explained that in order to formulate the HECDI for a given population data on relevant indicators is used to calculate a component score ranging from 0 -1 for each of the sub-targets and combine the 20 component score into a single-value index, the HECDI. She noted the statistical advantage in using an un-weighted (utilizing the displaced ideal theory) to a weighted approach in aggregating the scores: with the un-weighted approach each component score or sub-target has an equal contribution to the overall HECDI index score.

She concluded by indicating that although empirically the weights should represent the predictive strength of each component against an agreed outcome, consultation with experts, who utilise their existing knowledge of practice and policy to prioritise individual components over others, forms part of the process in determining the HECDI.

Question and Answer

The Question and Answer Session was moderated by Dr. Susan Fock Tave, Chief Medical Officer in Seychelles.

There was a query from the Health Sector about all the data that has been collected over the years and what is different now. It was pointed out that these data were scattered and not necessarily appropriately analysed. The data management project initiated by IECD helped to improve the quality of the data with a manual and indicators to collect the data systematically and to analyse the data.

The issue of privacy especially concerning information on children was also raised. The speaker from India explained that analysis is carried out at macro level for groups and not individuals. The speaker from Singapore acknowledged the concerns about monitoring or intrusion especially if photographs are uploaded onto social media platforms such as Facebook. She also explained that parents (and teachers) have options as to whether to upload photos and also whether the photos are

tagged to specific parents. It was generally agreed that it is an issue of being transparent and being guided by strong regulations. Big data ethics should be maintained to safeguard privacy and security.

Two questions were asked a) about the relationship between monitoring and evaluating early childhood development and the HDECI and b) what measurement to use since there is a whole range of different measures. For the first question it was explained that those two measures are utilised differently, the purpose of the monitoring and evaluation framework is to provide information to local communities whereas the HECDI is used for reporting at international level. However, some of the items in the monitoring and evaluation tools also form part of the HECDI. For the second question it was stated that we are living in an exciting time as far as big data are concerned in relation to the importance of early childhood. Some of the historically westernized instruments have been found to be limited in certain areas, notably, taking into consideration the culture and the local context. There is a move towards innovative practices and measurements and more confidence and flexibility are being demonstrated by policy makers.

Concerning the challenges in the implementation of the data system presented, Mr Gupta indicated that the system was set up to save teachers' time with monitoring and administrative matters so that they can concentrate on the children. Teachers were involved in the development so that they can have an input as to what is best for them. However, one of the main challenges was getting teachers to use the system but once they realise how it is used, since the system was build as simply as possible, they realised that it would save them a lot of time and would support them in their teaching task.

There was also a concern about how developing countries fitting into the big data scheme. It was noted that this is dependent upon the stage of development of individual countries. Therefore, the use of 'Big D' should therefore be priority-driven and adoption of technologies should reflect local circumstances. The local people should be encouraged to take a leading role and in the final analysis the question is: what are the data for?

Key Messages

Dr. André Leste, the Chief Rapporteur from Seychelles presented the key messages:

1. Keynote - Applying the technology of big data to ECCE could be a way to use the enormous volume of information on children for predicting risk and mitigating potentially adverse conditions affecting children.

2. Creative technology brand for children – Augmented Reality Teaching Aids could be used to transform teaching methods in Early Childhood, however time, teacher and parent control may be necessary to mitigate the negative effects of digital virtual materials.

3. Creating a system for data collection – Big data in ECCE need legal control to define collection and usage of data. The system should be owned by the government for appropriate selection, effective management and ethical consideration but decentralized to allow for efficient

handling and contextualization of data. Data on education include children's and parent data for targeted action, and school results for planning and development.

4. Institutional Framework – The need for an integrated institutional framework that would link the policy and coordination to the multi-sectoral operational actions must be given due consideration.

5. Legal Framework – It of utmost importance that the institutional framework is underpinned by a legal framework which is drawn from the global instruments and is rooted in the national context.

6. Policy Framework - The policy framework for ECCE can be formulated as a process of building multiple platforms for the use of big data. This should be coordinated centrally by the government in the adoption of a goal oriented, problem-solving approach to promote awareness, provide training of data management experts, and manage programmes and investments.

7. Programmatic Framework – The use of registers which connects data to social growth has a wide-ranging potential in ECCE to collect information for planning, placement, budget, resources, parents rights, child's rights and health, staff, and quality of the play-based multiple opportunities curriculum.

8. Financial Framework – The establishment of a national database may need to be considered with adequate financing to introduce a unified data collection system. Increased efficiency may be achieved by embedding the data collection system in ECCE service delivery mechanism. ICT can be introduced for cost effectiveness.

9. Monitoring and Evaluation Framework – The census approach could be an option in providing a measure of developmental vulnerability that can be used as a sound basis for strategic planning, policy creation and policy evaluation for early childhood development. By adapting the health, social, emotional, cognitive and communication domains to the local culture context and analysing through community mapping, the results can be easily communicated at national and community level.

10. Tour Seychelles Health Sector – The Seychelles experienced can be seen as a practical example for developing indicators and managing data for Maternal Child Health.

11. Good Practice from Singapore - There is a need to make everyone aware of the large amount of data present and how to use them. Therefore, the collection of reliable data is fundamental for processing and analysing that would be translated into action and can be used to improve the provision of early childhood services, decision-making and performance. "Littlelives" is an example of a Software that can be utilised to analyze and interpret big data to effect changes for quality pre-school.

12. Holistic Early Childhood Development Index – There may be an alternative way of exploiting big data through building the HECDI to target children survival, development and learning; children stimulation in home supportive environment; children families having access to health programmes; children’s rights protected though policies and supportive programmes. However, making decisions about what to include in the calculation of the index may need further inputs from big data experts.



DAY 3: MAIN CONFERENCE

Welcoming Remarks

In her welcoming speech, Mrs. Mitzy Larue, the Minister for Family Affairs, remarked that her ministry is making progress in producing important data for the well-being of the 0 to 8 year-old group of children and that Seychelles is making great strides along the data management learning curve especially in relation to the early identification of risks through early detection. The Risk Indicator Framework has been developed and is being implemented. Also, she highlighted the importance of training and anticipated a promising future with all key sectors dealing with early childhood issues and working together to improve outcomes for all children. However, she also recognised that more can be done to improve practices by being more innovative with the use of data.

Challenges from Partner Countries

The round table discussion which followed consisted of partner countries who participated in the Dubai Cares Project, namely, Cameroun, the Kingdom of ESwatini, Laos, Rwanda, and Seychelles. It was moderated by Mr. Cristian Fabbi from IBE-UNESCO.

The ECCE systems LAO PDR

After situating the country geographically, Mr. Panya Chanthavong, who is the Director of Education Quality Assurance Center in the Ministry of Education and Sports, identified key ministries and organisations involved in ECCE in Lao. He outlined the strategic and development plans and policies related to ECCE, in health, education, nutrition, social protection, and mother and child commission. He provided examples of data on population census, social indicator survey, and of annual data on child health and children in schools. He conceded that some of the main challenges are related to limitation in sharing and linking data amongst Early Childhood Sectors, and accessing data at district level. Also, he admitted that there is a lack of human resources for data collection and management. He traced the way forward as a continuation of the work with IBE-UNESCO to apply the ECCE prototype and General Education Quality Analysis Framework (GEQAF) to analyse the system. He maintained that priority areas such as establishing standards in data collection and management linked to quality assurance, and reviewing the existing Education Management Information System (EMIS) need to be addressed.

Kingdom of Eswatini

From the geographical location, the economic and demographic details, the ECCE system coordinated in the Office of the Deputy Prime Minister was introduced. It was emphasised that the Kingdom of Eswatini is a signatory of the Moscow Framework and all other international instruments in relation to holistic development of the child and child's right. Some of the concerns were: meeting resource requirements for data collection and management; data too fragmented to

address children's issues; technical expertise in analysing demographic data on children, procurement of equipment for data collection and analysis. The main challenges are the need to strengthen data management mechanisms, time constraints to form inter-ministerial committees to deliberate on Early Childhood issues, limited technical capacity and expertise. However, it was reported that progressive steps are being taken to: improve vaccination coverage, pre-school enrolment and registration; meet the basic needs of mothers and children; recruit competent personnel for EMIS- HMIS; and work on the legal framework for children rights and protection.

Rwanda

Mrs. Immaculee Kayitare, responsible for the National Early Childhood Development, summarised the data management system in Rwanda. She presented the pillars of the National ECD Policy, that is, nutrition, hygiene, health, early stimulation, positive parenting, and school readiness. She then gave an overview of the data sources: in health – electronic medical record, health management information system, track net for mother with HIV, rapid SMS for maternal child health; education - school data management system that can track students; social protection - monitoring and evaluation system, most vulnerable children and child labour system database, and labour administration system; and “Irembo” – one stop portal for e-government services. She identified the main challenges as the need for verification of data, the resistance of users in school, an integrated child labour administration system, birth registration of every child. The next stage of development, she argued, is to centralise all data on children below 6 years of age from existing databases. This will help to provide accurate data, follow-up on children, and avoid duplication in reporting.

Cameroon

After a general geographical and demographic background, Madame Maipa Wespa, Directeur de la Promotion et Protection de la Famille et des Droits de l'Enfant in Cameroun, outlined some of the main challenges encountered. Challenges in data management are related to the lack of centralised system for data storage, data collection mechanism (in education), equipment and software, and training programme. Administrative difficulties in establishing inter-connections between EC services and limited access to services were also reported. The way forward is to harmonise the different structures for early childhood provision, develop a data collection and management system to serve the ECCE sector, and establish systems for data analyses and feedback through integration.

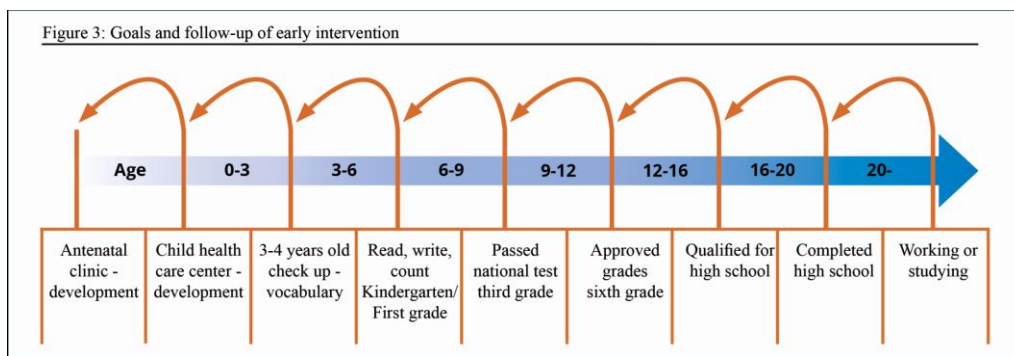
Presentation

Early Childhood Data in Health

Dr. Staffan Lekenstam from Sweden started his presentation by introducing the legal framework. He stated that the official statistics are regulated in Sweden and by law they are to be made available for the purpose of public information, investigative activities and research. The official

statistics are divided into 22 subject areas, 108 statistic areas and there are 28 government agencies responsible for official statistics and this can be a challenge in applying the holistic approach.

He provided an illustration of the combination of data from the health sector with the education sector. He traced the chain of data from pregnancy, birth, monitoring at the mother and child care centre, transfer to school-based nurse/doctor from the age of six, to school leaving age. He noted that the medical reports are very useful in measuring growth, for health promotion, for information about nutrition trends which can help to detect early obesity that can have a long term impact at the population level. He also informed participants that some of the results collected by the school nurse are registered in national data base and recently has been combined with literacy and numeracy skills from other data in the early years. He reminded participants of the importance of defining indicators for long term monitoring.



Observatory of Children's Rights

Dr. Elma Tershana introduced Albania as a small country with a small population and stated that the Observatory of Children's Rights experience was introduced for the first time in the Albanian society in 2009 as a UNICEF Programme. Its aim has been to function as *a monitoring structure, based at the local level*, regarding the implementation and realization of children's rights through appropriate action and support as part of the civil society. In 2018, the Observatory's mission was extended to include the youth. Children's rights are observed at both local and central levels to establish good governance from the child's perspective.

She commented on the issues monitored through data that include demographics, children's education, health care, social protection, children with special needs, and children in conflict with the law. Data are collected from the local (district) to middle (region) to central (ministries) level. However, one has to define the data clearly and limit the generation of large numbers of indicators. The data collection and monitoring process is complemented by open discussions, round table, meetings and seminars with regional and national stakeholders in order to achieve proper implementation of children's rights.

Dr. Tershana provided examples of the visualization of data which can be an effective tool to translate data into policies and assign to the local authorities the necessary responsibilities through cross-sectoral interactions. Therefore, the data presented in a geographical map can be

transformed into a social analytical map with predictive value and intervention potential. Not only are the data used for recording and as inner action contribution resource but also for publication on emerging issues such as child marriage and out-of-school children, and for international reporting. She concluded by emphasizing the importance of bringing the voice of the child in the big data conversation.

Question and Answer

This session was moderated by Mr. Christian Fabbi from IBE UNESCO.

1. Dr. Staffan made the point that there is no formal national programme in Sweden to observe children in pre-school settings but observation is carried out in a child-friendly environment in the health centres which they attend on a regular basis. He indicated that the assessment lasts approximately 30- 40 minutes in every child centre. With reference to the school data in the case of hospitalization, if necessary, with the permission of the parents relevant data can be transferred for medical purposes.

2. There was a question on the integration of all the different data bases in Rwanda. Participants were informed that the main data base is based within the Ministry of Gender and Family Promotion and that links have been established with other sectors to avoid duplication. Integrating the various databases is an on-going process starting with the health sector. With regards to the age range for early childhood (0-6years), it was explained that the intention is to focus on children who are most vulnerable and these are children below the age of six as primary schooling starts with 6-year old children.

Impacts de la révolution digitale sur les jeunes enfants

Dr. Anne-Lise Ducanda, Medecin de Protection Maternelle et Infantile from France, made a presentation on the overexposure of children to digital materials on electronic screens. Her main thesis is that this over exposure has a detrimental effect on children's development especially for early childhood children.

She produced recent statistics which linked overexposure to attention deficit, aggression, inability to react to simple instructions, non-responsive behaviour, and serious communication problems in children. However, when exposure is reduced or removed altogether the majority those same children make remarkable recovery.

Dr. Ducandra made a list of reasons given by parents for exposure of their child to television or smart phones or other electronic gadgets but it was also pointed that parents are permanently dependant on their smart phone or the television and these habits restrict quality time between parent and child. She also illustrated a wide range of electronic gadgets to which children are exposed through their parents, mainly mothers, in the day-to-day care of the child. However these devices increases exposure and have a negative impact on brain development, mother-child interaction, sensory development, on the child's motor development, hand-eye coordination. The

educational value of many of those gadgets is dubious, she added, and they impair language development.

Dr. Ducanda concluded her presentation with the following messages: the need to raise awareness at government level, to continue researching on the impact of exposure to electronic screening devices, sensitisation campaign for parents, and training of professionals to help parents in managing their children's exposure to electronic screens.

Question and Answer

The session was moderated by Mrs. Mari-Josee Bonne, the Principal Secretary for Family Affairs in Seychelles. She gave a brief summary of the essence of the presentation: the deleterious effect of overexposure of children to television and mobile screens. This impacts on children's behaviour and communication pattern; also research has shown that it interferes with the development of intellectual and cognitive skills.

With reference to an appropriate age for children to use electronic screens without affecting their development, Dr. Ducanda said that it varies from country to country but definitely, there should be no exposure before the first year and then very limited viewing in the company of and supervised by parents. In Thailand for example children were not given mobile phones before they were two years of age.

The Ambassador for Women and Children in Seychelles admitted that she encountered similar experiences of child developmental issues in her everyday practice in the Early Childhood Development Intervention Centre. She said that at least five or six referrals are made every day and her instruction to the parents is to cut out screen time for their children. She explains to the parents the dangers of extended screen time and the passivity reactions when interacting with electronic screens such as television, smart phone, tablet or computer. She expressed concern regarding the Augmented Reality learning devices, however, she was relieved when at the end of the presentation it was cautioned that there should be a time limit and that the use of those devices need parental and teacher supervision. She argued that there has been an increase in autistic type behaviour and that this may be related to the effect of the digital revolution.

Dr. Ducanda reiterated that in order to learn children need to interact with somebody and speaking is an important part of this interaction and part of the learning of language. Screens are not like other toys or other activities; it captures the child's attention very strongly and the child does not care for other things in the environment. For the child's brain to develop the child needs to use the five senses and interact with the environment. The real world is very rich in giving the opportunities for the child to use the five senses for learning whilst the screen is very poor in that regard.

Big data for early childhood development outcomes

Mr. Egbert Benstrong, Independent Consultant, from Seychelles began by setting his presentation in the context of the proactive role of IECD in its action-oriented decision-making process based on the principles of the data collection, monitoring and evaluation in the Seychelles Framework for Early Childhood Care and Education. Within that context a number of audits such as the Childminding Study which led to the development and implementation of childminding standards have been carried out.

He then expanded on three recent projects implemented by IECD in collaboration with selected sectors. Monitoring Child Development Outcome in 2016 with the Health Sector provided information on milestone indicators and the quality of the Maternal Child Health Service. More recently, in 2017, in the Health Sector, with the technical assistance of the World Bank a pilot study on about 7000 children and their mothers was undertaken and nine indicator based on WHO benchmarks for stunting, wasting, overweight, anaemia, breast feeding rate were established. In the Education Sector, a study of the early learning environment in all government pre-schools in Seychelles was implemented and it was reported that resource provisions were below the expected standard which could have an impact on early learning experiences of the children. Also in the Education Sector the level of readiness for pre-school children has been assessed and Mr. Egbert emphasised that this has tremendous analytic potential if linked to later national key stage testing.

He concluded his presentation by describing the voluminous and 3V's characteristics of big data, the five steps in data science processing, and some of the necessary policy, organisational, human and technological resources, and social changes that are necessary to use big data to improve child development outcome in Seychelles.

Contributions from the Floor

Mrs. Linda William-Melanie, the Principal Secretary for Social Affairs, moderated this session. She invited inputs from delegates to further enrich the presentation.

There was a suggestion that the case management information on child abuse from the Social Sector could be numerically translated and visualized on a map. This will allow regional analysis and identification of areas or regions where there are more children who are abused. In that way, it would be easier to understand the causes and to take preventative measures.

The Senior Statistician from the Ministry of Health in Seychelles made a plea for the inclusion of the Ministry of Finance in the big data debate so that they can make a national commitment to building the foundation of our society that will in the long term have an impact on the economic development of the country.

Ministerial Roundtable

The ministerial roundtable as defined by Mr. Cristian Fabbi from IBE UNESCO, who moderated the session, is to define prominent messages from the conference and decide on the way forward.

IBE is prepared to engage with countries interested in developing data system in Early Childhood Care and Education through their commitment to a Joint Framework of Action which is the purpose of the high level discussion. Seychelles was represented by the Designated Minister, Minister for Education, and Minister for Family Affairs; the Kingdom of Eswatini by the Principal Secretary of the Ministry of Education and Training; and the Kingdom of Bahrain by the Assistant Under Secretary for Health.

Seychelles

The conference was described as an inspiring journey with experts and presenters in the data management field. It was noted that the conference should be used as a point of reflection to enhance national strategies: it should enrich the national plan of action for ECCE, it should lead to strengthening collaborative actions; it should assist the main ECCE Sectors in starting a system of data management based on agreed indicators. Also, it was emphasised that the conference should prompt the setting up of a national agenda where all ECCE sectors include data management as part of their plan for 2019-2020. IECD with the assistance of international partners is established as the repository for all ECCE data and the reporting process is agreed upon for the next biennial conference. Moreover, data collection, particularly in the social field should be further promoted to build on what has been achieved and assure quality standards.

There was an urgent plea for coordination and involvement of all sectors, in particular, the Bureau of Statistics so that ECCE indicators can be linked to other population data to make prediction for sustainability and to educate parents and families.

Kingdom of Eswatini

The shared experience of the conference was endorsed, the importance of GEQAF to improve coordination of ECCE efforts was underlined, and the necessity to draft a legal framework for data management was raised. The issue concerning the use of digital gadgets received particular attention as the negative effects of those gadgets were very strongly described contrary to current views of many parents who feel that they need to provide these gadgets for their children at an early age as part of their development. The use of open source facilities was mentioned as a way of ensuring affordability. A national workshop was proposed with the assistance of IBE to contextualize the complexity of big data in the country. Parenting education was also felt necessary. Commitment was made to work with international partners on training in data collection, analysis of big data, and the use of data to drive policy.

Kingdom of Bahrain

A general philosophical remark was made concerning the universality of the human needs which have been illustrated through the various discussions from different countries, however, it was pointed out that satisfying them remains country-specific. Therefore there should be cooperative techniques to team up and work together so that a standardised approach to data gathering is

established. It was noted that the multi-sectoral approach as depicted in Seychelles is similar to the one in Bahrain and there is a large scope for collaborative partnership. Bahrain has a long experience of data collection and information gathering and the facilities and resources are available. An open invitation was made to countries who would be interested to collaborate. However, high level and legislative commitment would be expected for financing, training and analysis so that ECCE data would be effectively used to drive evidence-based planning.

Mr. Cristian Fabbi highlighted the key messages from the roundtable: the building of human resource capacity, developing a national strategy, assuring quality, drafting a legal framework, collaborating through high level commitment.



Way Forward

Dr. Mmansetsa Marope , the Director of IBE UNESCO reflected on four specific issues as the way forward for the conference: political commitment, the technical aspect of big data, cooperation between countries, and the status of the biennial conference.

It was stated that it is through the strong political will of the Seychelles Government that the ECCE system in Seychelles has made sustainable progress, and this can be emulated by other countries; the underlying pillars of a resilient ECCE system outlined in the previous conference has been substantiated in this conference through the presentation of legal, institutional and, monitoring and evaluation, and financial frameworks based on country cases. So, there has been a shift from theory to practice. It makes this biennium very important as there is a movement up the level of achievement.

She claimed that this was underscored in the conference by the way big data was used to manage systems in ECCE and most importantly to tract impact. The message from the conference is that big data is complex and can be confusing but there should be clarity of purpose when using big data for small children to improve outcomes. This has been strongly demonstrated through diversified country systems which showed how big data can be used for the holistic development of children. It was strongly proposed that data management systems should be used for visualisation, to predict and pre-empt risks and catalyze the positive elements in the system.

Pursuing the journey image, Dr. Marope reviewed the biennial conferences as retrospective, prospective and collaborative. She recognised that different countries are at different stages of development and that it is important to reflect on past background, the present context and future needs. She noted that even advanced countries recognise their challenges to make the extra mile and it is by making this extra mile that partner countries engage in collaboration that would set the agenda for action. It is anticipated that the JFA will be explicit on specific areas to collaborate on as these areas have been well summarised from the roundtable discussion and that Seychelles as the lead country will aspire to have a strong representation of countries rallying for the biennial. She expressed her wish that for the next biennium Seychelles would have achieved the status of Category II IBE Centre. Dr. Marope also suggested that it would be possible to transform the biennium into a World Conference as ECCE systems are building up and progressing.

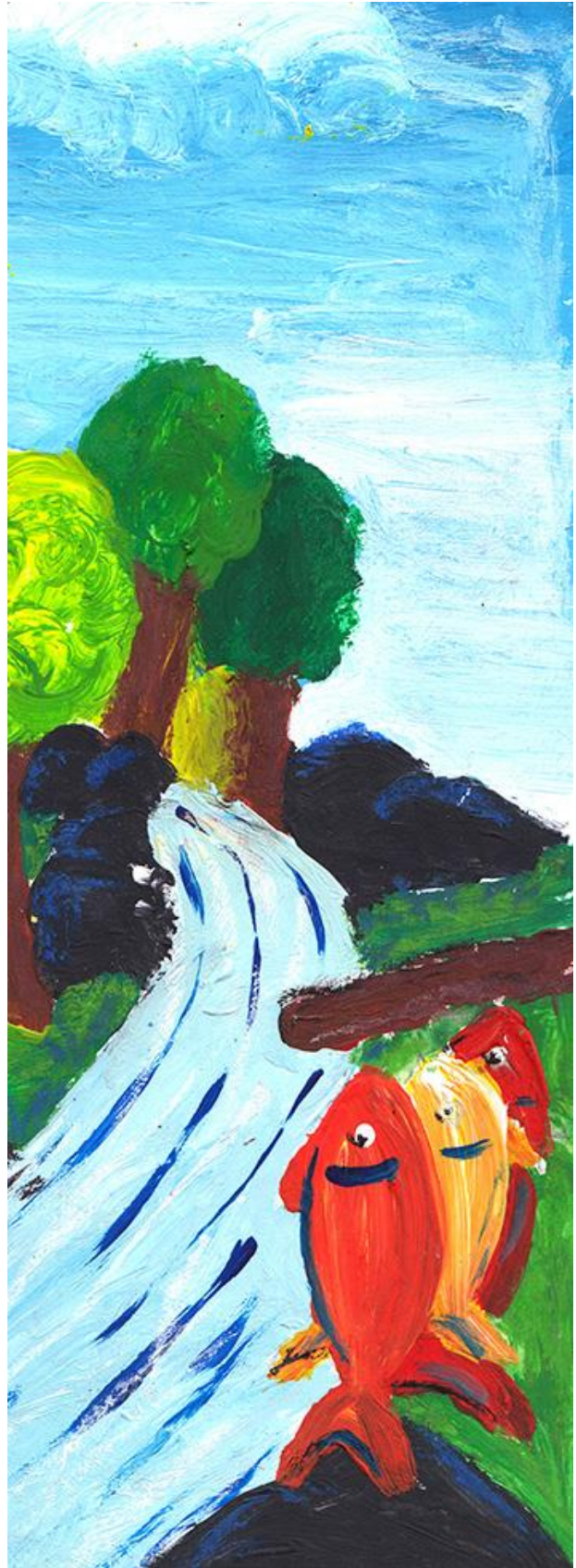
She concluded her remarks by thanking the resource persons, the rich participation from the floor and all delegates for justifying the high financial investments in the conference. She thanked senior participants from other countries, the political leadership in attendance, and the host country for the reception, support, and organisation; and described her overall experiences of the conference as enriching.

Closing Remarks

The Honourable Designated Minister, Mrs. Macsuzy Mondon delivered the closing address. She expressed her appreciation for the presence of the delegates, participants, and presenters, and the remarkable and thought-proving contributions they made. They have advanced the ECCE agenda further by exploring the potential of scientific research and the importance of data to improve ECCE services across various spectrums.

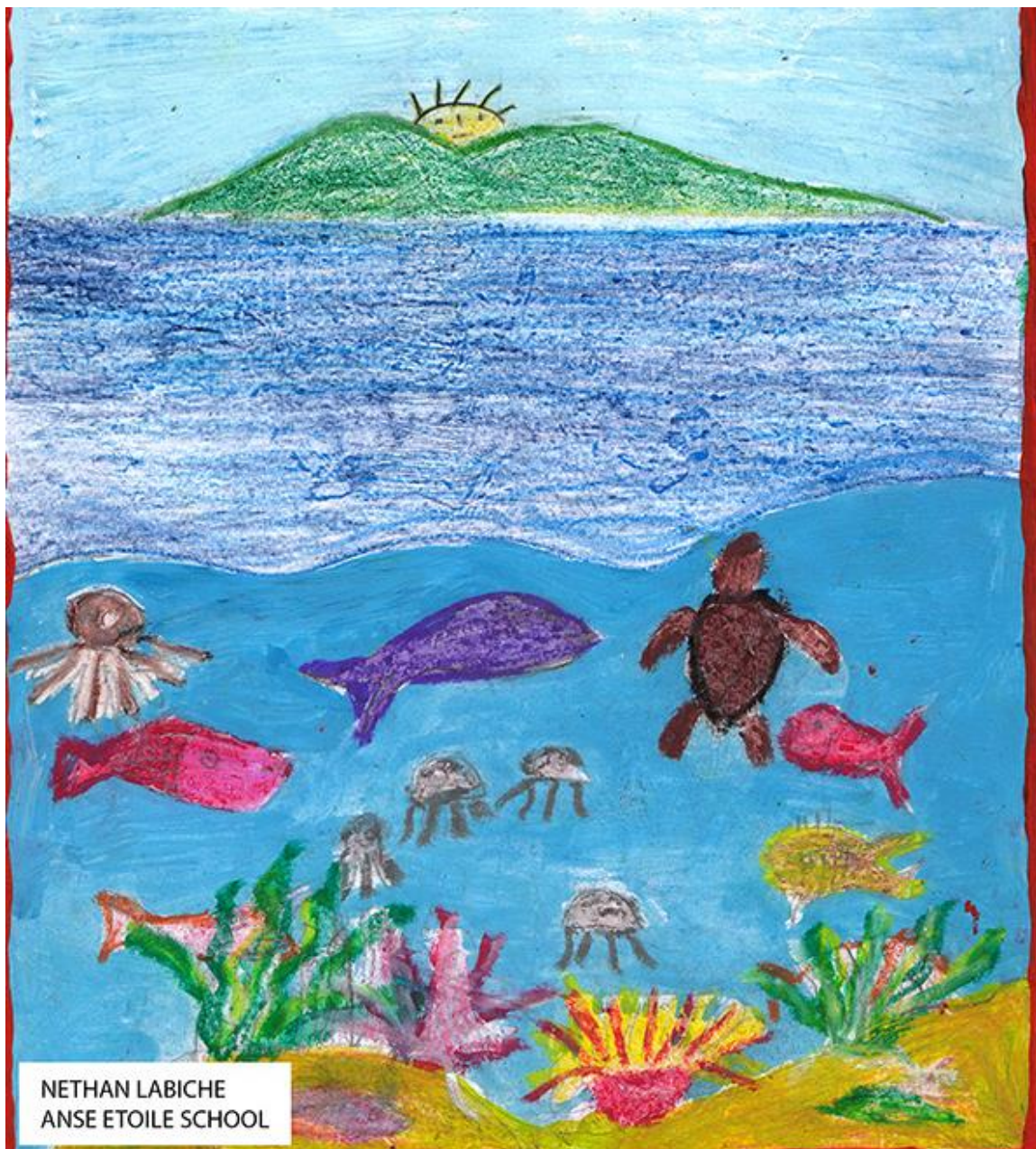
She acknowledged that the theme of the conference has reaffirmed the crucial importance of data for the development of the ECCE Sector and recognised the essential role of data in identifying priorities for action and combating inequalities. This theme has generated a rich and interesting debate on the potential of reliable data in shaping the lives and living conditions of children.

In spite of the challenges that inhibit the collection and management of data on children, Mrs. Mondon declared that much progress has been made to overcome these barriers since Moscow 2010. Long strides have been made locally not only to ensure that ECCE remains high on the national agenda but also in the way that sectors have collaborated and continue to collaborate. The conference has made vital contributions to the ECCE Agenda on the innovative projects that have been developed and implemented. Valuable data has been yielded so far to make vital contributions and inputs. She admitted that through the conference a significant bid has been made to create an environment for big data research and application. Lessons have been learnt to anchor the data



environment in legal instruments. However, the concerns of data security and scrutiny need to be addressed. More training would be necessary to remain in tune with the technological revolution concerning ECCE. There is a necessity to improve the research environment and to ensure that data are collected routinely through administrative duties. She placed further emphasis on the need for funding and collaborative networking.

She further thanked all the speakers, initiators, organisers and support personnel who have made this conference successful. She also thanked all the professionals and experts who have dedicated their time to participate in this conference. With a parting farewell to all overseas delegates, she declared the conference closed.



ANNEX 1

JOINT FRAMEWORK FOR ACTION (JFA) DRAFT VERSION

Building Resilient, Data-Driven Systems of Early Childhood Care and Education



Context

1. This Framework for Action originates in the Second International Biennial Conference on ECCE held in the Republic of Seychelles from 21 to 23 February 2019. Under the title “Big Data for Small Children,” the conference brought together xx representatives of governments, non-government organisations, international development agencies and international experts, from yy countries, to share knowledge and practices and develop strategies to address current data management challenges in ECCE.
2. The most prominent theme emerging from the First International Biennial Conference on ECCE in 2017 in the Republic of Seychelles was the urgency of taking practical steps for each MS to adopt a broad and multisectoral, holistic approach to ECCE. A holistic approach to ECCE requires defragmenting, coordinating, and systematizing ECCE services.
3. Advocacy for holistic ECCE approaches has been a consistent fixture in literature and discourse on ECCE practices since the World Congress on ECCE in 2010, and the emphasis placed on ECCE as the equalizer for lifelong learning in the World Education Forum in 2015.
4. The 2017 First Biennial Conference and follow-up activities, such as the development of the Draft ECCE System Prototype, devoted less attention to advocacy and more attention towards practical strategies for building resilient ECCE systems and towards emerging exemplars of such systems.
5. Effective, efficient, and resilient ECCE requires collection, analysis, integration, and use of large and continually refreshed data sets across the sectors contributing to ECCE. Data sharing across sectors inherently reduces sectoral fragmentation in overall ECCE
6. Despite extensive progress, organizational fragmentation of services remains a defining characteristic of most Member States’ ECCE.
7. Among the rapid changes in 21st century global society are multiple technological breakthroughs and revolutions in varied fields of science and knowledge development, including data science. The data revolution offers new techniques and tools for all MSs to improve critical ECCE data management.
8. Within the context of ECCE literature and consequential global gatherings to advance ECCE system advocacy and increasing success in converting fragmented services into coherent ECCE systems, this Framework is intended as a reference and guide for governments to improve ECCE by significantly **improving the collection, analysis, integration, and use of critical data required for ECCE success.**

9. Based on the considerable progress in several countries and early childhood organizations that presented data management systems at this conference, there is collective agreement that the following enablers are important ingredients in building a resilient, data-driven ECCE systems:
 - Sophisticated, multisectoral planning and coordination of ECCE indicators, including those appearing in the indicator basket in the Holistic Early Childhood Development Index (HECDI), with planning organized around reaching crucial, locally determined benchmarks for holistic early childhood well-being;
 - Combined technical and political leadership to leverage data collection and coordination into holistic ECCE system services;
 - Consequential global dialogue and networking which leads to critical appraisal, assistance by international partners, and improvement iterations; and
 - Institutionalization of continuous improvement of ECCE data management.

Joint Framework for Action

The JFA may be summarized as involving inventory and assessment; planning and action; and global ECCE community development. It is intended to mobilize well-informed analysis of current practices, bold and vigorous planning and action based on that analysis; and participation as both contributor to and beneficiary of the global ECCE community

10. Re-affirm national and international commitment to and investment in ECCE
 - Develop an enabling policy environment with adequate legal and regulatory framework to support multi-sectoral ECCE data management systems;
 - Link ECCE with national development and economic planning by means of creating a strong multi-sectoral and data-sensitive ECCE financial plan
 - Establish links with private sector for funding ECCE's data managements

Inventory and assess ECCE data management practices

11. Carry out an inventory of comprehensive ECCE services especially as they relate to data management, for internal purposes. The inventory will summarize data sets managed for ECCE, and identify structural instances where data sharing within and between sectors is most abundant or salutary and where it is most deficient;
12. The inventory will serve as foundation for a multitier (zero, partial, and full additional resourcing) and multiyear ECCE data improvement plan.

Improvement plan.

13. Partner countries will identify specific action/s and develop short (2019-2021) or medium-term (2019-2023) national plans.
 - The plan will identify applicable effective practices in other MSs;
 - The plan will specify numerical targets for quality ECCE using indicators such as those in the HECDI basket or HECDI single value index.

- The plan will specify expectations continuous self-assessment, diagnosis, and data management planning going forward.
- Seek appropriate funding.
- Implement the plan.

Cooperation and ECCE Community Development

- Each signing MS will develop a publicly sharable ECCE Profile that identifies promising practices, challenges, progress in indicator collection
- Cooperate with international organisation for leadership and support
- Develop links with other partners for technical support in data management systems, skills transfer, and capacity building
- Report and share experiences on short term actions in the third Biennial Conference on ECCE in Seychelles in February 2021.

The UNESCO International Bureau of Education will also support implementation of the program in participating countries via its ongoing projects.

Implementation and follow-up

a) By partner countries:

- Submit Plan of Action to the International Bureau of Education of the United Nations Educational, Scientific and Cultural Organization and the Institute of Early Childhood Development
- Seek appropriate funding
- Implement the National Action Plan
- Report and share experiences on short term actions in the third Biennial Conference on ECCE in Seychelles in February 2021

b) By Institute of Early Childhood Development:

- With the lead and assistance from the International Bureau of Education of the United Nations Educational, Scientific and Cultural Organization, the Institute of Early Childhood Development provides on-going support and technical assistance to partner countries and monitor the implementation of the plan and specific ECCE Projects
- In collaboration with the International Bureau of Education of the United Nations Educational, Scientific and Cultural Organization, the Institute of Early Childhood Development convenes Biennial Conferences on ECCE for partner countries to report on progress and achievements

Partner countries call upon the International Bureau of Education of the United Nations Educational, Scientific and Cultural Organization and the Institute of Early Childhood Development to:

- Promote the Joint Framework for Action amongst partner countries and in other interested countries, working in close partnership with all parties

- Provide leadership, consultative support, and dissemination of best ECCE practices, especially as they pertain to vigorous exercise of big data management in service of ECCE.

Pledge

The signatories, in acknowledgement of the necessity and urgency of strengthening Member State ECCE systems, endorse this Joint Framework for Action and affirm their commitment to intensify efforts to implement planned actions, assess progress and carry out periodic evaluation.

For

For

THE INTERNATIONAL BUREAU OF
EDUCATION OF UNESCO (IBE-
UNESCO)

REPUBLIC OF SEYCHELLES

Date: _____

Date: _____

—

—

For

For

THE INSTITUTE OF EARLY
CHILDHOOD DEVELOPMENT

[MINISTER OF PARTNER COUNTRIES]

[Name
Title]

Date _____

Date: _____

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Draft Joint Framework for Action by IECD

23 February 2019/20

ANNEX 2: SIDE EVENTS

PROGRAMME 1

Introductory Remarks

Mr. Cyril Pillay, Director General for Early Childhood and Primary Education welcomed participants to the First Side Events with special mention of the resource persons from Singapore.

Overview of the Seychelles Early learning Framework

Mrs. Helene Basset, Senior Education Officer at the Ministry of Education gave a brief overview of the Seychelles Early Learning Framework.

After acquainting participants with the structure of the SELF, she stated that the SELF is based on three integrated themes: Being, Becoming, and Belonging; and comprised six early learning and development areas: well being, identify and belonging, communication and language development, early mathematics, art and creativity, and knowledge and understanding of the world.

She explained that in the SELF developmental watch points are identified, outcomes are presented, and activities, which form part of the Work Plan, are proposed, to guide practitioners. These early learning actions, opportunities, and support, are conceived in a seamless integrated set of activities for children from birth to seven.

She further clarified that the SELF is underpinned by the vision, mission, principles and values for ECCE within a setting of cultural diversity and inclusion. It addresses the different developmental stages, children's rights, the responsibilities of adults, the community, and the society.

The Journey towards Quality Birth-to-Three Curriculum Narrative from Singapore

Dr. Geraldine Teo-Zurarte, Director of the Caterpillar Cove Child Development and Study Centre thanked the Minister for Education, the CEO of IECD and team for the warm welcome with an acknowledgement of her team in Singapore. She gave a quick resume of the geographical location and demographic information, the diversity of languages, and the ethnic context of Singapore, an island country and a city state, which has transited from a developing to a developed country.

She introduced participants to the Early Childhood Development Agency (ECDA) managed by a statutory board. It is an autonomous, regulatory, and developmental body, overseen by the Ministry of Education and the Ministry of Social and Family Development for the field of the early childhood sector in Singapore. It oversees the development of children below the age of seven across Child Care Centres and Kindergarten and the newly created Early Years Centres. She revealed that the mission of ECDA is to ensure affordable access for each child, through Government grants and subsidies, to early childhood development services and programmes. ECDA oversees and manages these centres and monitor quality through regulations, quality

assurance, and the provision of early childhood development resources. The Agency also provides opportunities for professional development for early childhood educators and work with parents through public education and outreach programmes.

Dr. Teo-Zuzarte added further information for professional training and development. This was introduced by the Government in partnership with Singapore Skills Workforce Qualifications and Dr Teo-Zuzarte outlined the different pathways of professional development from “educarers”, pre-school teachers, leadership, and pinnacle leaders. She explained that there are opportunities through additional courses to move from the lower level to the higher level and as a pinnacle leader the role is to uplift the quality of care and education for early childhood in the country.

Dr. Teo-Zuzarte also introduced the system of quality assurance in line with the government’s drive to improve the quality of early childhood education. All centres are licensed and the regulation is based on five standards: statutory approval, staffing provision and quality; space, facilities and resources; health, safety, and nutrition; and school experience. However, she signaled that there are three aspects to quality: structural, procedural and system quality and what has been described referred to structural quality. Meeting structural quality standards are necessary for registration and licensing. To meet the demands of procedural quality relating to leadership, planning and administration, and system quality focusing on holistic development outcome, centres need to meet the requirements of a recent accreditation process of system-wide practices and structural enhancements.

After the presentation of the education system in Singapore, Dr. Teo-Zuarte introduced the NTUC Social Enterprise First Campus. It has five schooling business units (brands): My First Skool, in partnership with government, caters for everybody; The Little School-House caters for middle and upper income brackets of Singaporean families; Caterpillar School is a study centre for research; After School caters for children 5-12 years of age, and SEED Institute incorporates teacher training and learning delivery. The vision of NTUC First Campus is to be a thought and practice leader for all working families in every Singapore neighbourhood.

Then, Dr. Teo-Zuzarte gave some information on the curriculum for the early childhood centres. She described it as a holistic progressive curriculum for children from the age of two months to the age of six years. In effect, there are two curricula: the relationship-based curriculum for children from 2 months to 3 years of age and the school ready curriculum for children from the age of 4 years to 6. She explained that the curriculum is designed along the “plan do and review approach”. She went on to elaborate on the review of the curriculum for children from 2 months to 3 years as there were concerns about unhappy and controlled children, stressed teachers, and minimal learning activities. The new curriculum which is the relationship-based curriculum which has been internationally validated has been developed from notions in neuroscience and theories of attachment. The main idea is to ensure secure attachment of children to teachers and to increase positive learning experiences for the children. An educator workbook for every teacher and a training manual for teacher trainers form part of the training to deliver the

curriculum. The quality of the curriculum is evaluated using two main indicators of children performance: their well being and active involvement in activities. The curriculum consists of three domains of development: psycho social, physical domain and thinking communicating. These are aligned to the national curriculum. Training through 8 modules is carried out throughout the year.

Teachers are provided with up-to-date child development material, with local content and they are trained to use primary care giving approach to carry out observation to facilitate learning through planning and implementation, play-based activities and techniques to support and manage behaviour. Dr. Tuo-Zuzarte used video to illustrate how children make connection, develop social skills, explore the immediate environment and material, discovers through hide and seek activities.

Dr. Teo-Zuzarte concluded by sharing some of the positive results of the before and after effects of the implementation of the curriculum. Measurement on the two key indicators, well being and involvement, were carried out through observation such as the level of concentration of the children, focused energy by tracking children's eyes, through their facial expressions, their persistence and precision, and the level of satisfaction.

Plenary

Dr. Odile Decommarmond, Principal Secretary for Education summarised Dr. Teo-Zuzarte's presentation on the provision of quality early childhood services and curriculum in Singapore with emphasis on regulatory standards, description of the early childhood centres, and health practices and documentation. Dr. Decommarmond also mentioned the accreditation framework system aiming towards the holistic development of children. Finally, she traced the curriculum direction for early learning that has been guided by neuroscience, as outlined by Dr. Teo-Zuzarte, to promote early learning through the provision of an enabling environment and the pedagogical training of teachers.

In response to the question on special needs, Dr, Teo-Zuzarte declared that the education system in Singapore makes provision for children with additional or special needs. Although early childhood education is inclusive, special attention is given to children with additional needs. Teachers have sufficient skills in their training to support children with special needs. However, she admitted that more can be done in providing strategies for teaching those children. She gave the example of NTUC First Campus where there is a specialist support centre for children with additional needs. The children are assessed and identified by specialist and they are provided with the necessary support at the centre. After completing early childhood education, informed decisions are made if the children will attend a mainstream school or if they will be placed in Special Schools.

Dr. Teo-Zuzarte commented on the fees for day care and on the teacher salary. She informed participants that a diploma qualified teacher earns a very high salary in the range of SCR 25,000 – 30,000 (equivalent). However, she clarified that the teachers work long hours in a highly regulated system. With regards to day care fees, Dr. Teo-Zuzarte confirmed that although the

fees are quite high compared to those in Seychelles, in government aided centres in Singapore the fees are regulated and parents with lower salaries receive an allowance to complement the day care fees. Nevertheless, in private early childhood day care centres the fees can be exorbitantly high. She reminded participants that the day care centres provide three meals a day under very rigorously regulated health promoting conditions. She took this opportunity to make known the government's commitment to reduce sugar intake to address health issues associated with diabetes. In day care centres juice is not allowed for the children.

Dr, Teo-Zuzarte stated that in Singapore education is compulsory for 10 years starting with the first year primary and that children are enrolled by year of birth as they turn seven. She confirmed that early childhood education is not compulsory.

The relationship between the centres and parents was also questioned. It was explained that by law the centres need to document parent partnership and there are several ways that this partnership is maintained: mandatory regular meetings with parents to discuss not only the academic aspect of their child development but also the wellbeing of their children, in general; making informal contract with parents by sharing specific goals for their children and encouraging parent to show support for these goals; teachers planning take-home activities; involving parents in excursions; multi-cultural celebration as part of the centre activities. It was also pointed out that Singapore is a high academically achieving country and parent expect that children will be able to read and write when they transit to primary school and, developmentally, school readiness is expected. Also, the long hours of day care provisions form part of the support system for dual income families, and Singapore values its human resource capacity.

From a direct question about the percentage of children attending pre-schools, Dr. Teo-Zuzarte stated that the current 2018 figure is 89% and the government is aiming towards 90 – 92 % utilisation of pre-school services

Concerning the tools used for observation, Dr. Teo-Zuzarte said that the Ferre Laever Observation Scale was used by the leaders for research. However, for teachers the observation is broken down into three sequences so that the teachers gain explicit understanding of observation and the specific elements of well being and active involvement.

With regards to training, participants were informed that ECDA has a Continuing Professional Development Framework for centre personnel. For centres receiving a government grant, teachers have to fulfill 40 hours of professional training per year. For the other centres 20 hour of professional training need to be achieved.

It was explained that centres use different approaches and context in developing their programmes and ensure that they were aligned with the National Curriculum Framework.

Dr. Teo-Zuzarte congratulated the Ministry of Education for the introduction of the profiling system. She informed that in Singapore they compile a portfolio for each child. There is no grade repetition, students are assessed on entry to primary school and added learning support is

provided for those who are having difficulties. However, ability streaming starts from the fourth year of primary schooling.

A question was asked about transition from previous programme to the relationship-based curriculum. Dr, Teo Zuzarte said that the decision was made on what is best for the child. She admitted that there were initial push backs, 20 percent of the staff left and new teachers had to be recruited. However, with intensive training for teachers and on-the-job training for leaders, five years on, the staff believes in the care and education approach and staff feel that they have become professionals rather than just being custodians.

PROGRAMME 2

Introduction

Ms. Zita Labiche, Senior Education Officer from Ministry of Education introduced Dr. Anne-Lise Ducanda as the doctor from the children's health clinic in Essone, France. She explained that Dr. Ducanda's presentation is based on the overexposure of children aged 0-4 years to electronic screens and the effect this has on their development. This is based on her experience of the past five years from her everyday practice, dialogue with parents, and referrals from pre-schooling institutions.

Quels sont les impacts de la revolution digitale sur les jeunes enfants

Dr. Anne-Lise Ducanda started her presentation by providing a general picture of the pervasiveness of digital devices and their permanent presence in families around the world. Many children and their parents are heavily exposed to a multiplicity of electronic gadgets, tablets with a multiplicity of functions, diverse smart phones with cartoons and games, television with 24 -hr programmes dedicated to children, and u tubes on the internet. Those technologies have become valued by society and have literally flooded families without warning. To the parents they seem magical; the parents are trapped; they discover that electronic gadgets have a calming effect on their children; they occupy them; they keep them quiet; they keep them indoors; and the children do not seem to get tired of them. This creates the false impression that these gadgets are beneficial and educational.

Dr. Ducanda identified some of the consequences of digital gadgets on early childhood development and early learning. It causes some children to become very inhibited; children cannot take any initiative, they are very agitated and parents do not know how to calm them without the gadget; the children are sometimes intolerant to any form of frustration; they can be aggressive, agitated, have temper tantrums, and cannot understand simple instructions. In interacting with those gadgets children are restricted in their movements and opportunities for exploration of the environment; they become disconnected with their environment; they display inadaptive behaviour, they can also have developmental delays, relationship and communication problems, difficulties in achieving language competencies, psychomotor difficulties, sleep disorders, persistent anxiety, and attention deficit syndromes. These were illustrated through videos of children's behaviour and accounts of parents. As a result, it has been found that many children experience serious developmental retardation and difficulties at a very young age and this phenomenon is increasing.

Nevertheless, Dr. Ducanda reassured participants that many of those problems can be avoided and in most cases can be spectacularly remediated by eliminating the electronic gadget altogether or strictly limiting screen time. She noted that even the habit of having the television on permanently in the background can have detrimental effects on the child. She pointed out that practitioners should also be trained to make accurate diagnoses and help both children and their parents. Her general advice to parents was to ensure that children use screens wisely, to engage

their children in real activities and to communicate with them, play with them to ensure their holistic development.

Dr. Ducanda expressed her views on the usefulness of the new technology and the services that they can provide but she said that parents should be educated on the dangers associated with these electronic gadgets and the effect they can have on their children. If parents are unsure about the developmental behaviour of their children, they should consult a professional person. [This does not mean that the child does not have the right to screens](#) and there are recommendations concerning screen time but these vary from country to country. However, parents should know that using electronic gadgets is not an activity like any others. Use of electronic devices and watching television are strongly addictive activities. The screen captivates children, attention, over stimulate their brain. Their use must be reasonable, limited and negotiated on the basis of clear rules and parents must exercise full control. For some parents, it is easy to implement, for others it is less so. In anyway, it is certain that screens complicate the educational development of children and the parental task of bringing up children.

PROGRAMME 3

An Evaluation of the National Action Plan 2017 – 2018 for Early Childhood Care and Education

Dr. André Leste, an Independent Consultant presented the evaluation report of the national action plan. He stated the evaluation framework is based on UNDP Model which considers the resource input (material and human resources), and achievements measured as output, outcomes, and impact. He indicated that the main research methods employed were questionnaire for the technical team members, sector project reports, output documents, and self appraisal of sector performance. He outlined the five priority areas, derived from the Seychelles Framework for ECCE, addressed in the plan: Policy Research, Parental and Community Involvement, Professional Training, Early Detection and Child Protection, and Quality Access. Dr. Leste reviewed the achievements in project implementation of the five ECCE Sectors:

- Education with three projects on profiling, early learning, and training
- Health with six projects relating to day lounge, oral health, DDST, special aids, pulse oximetry, nutrition
- Local Government with two projects concerning day care facilities and community-based kids gathering initiative
- Social Affairs with two projects on suitability check, and risk indicator assessment framework
- Institute of Early Childhood Development with five projects on data management, ECCE advocacy, training of childminders, childminding standards, and early learning environment

Dr. Leste revealed that 24 out of the 39 expected outcomes of those projects have been met, moderate progress had been made in the achievement of 10 outcomes, and he commented on the limitations in achieving the other 5 expected outcomes.

Dr. Leste claimed that the implementation of the overall plan has been successful. The National Action Plan had had considerable impact on the knowledge and understanding of ECCE within sectors, it has had positive learning responses from technical team members. Through the collaborative working style, sectors have shared experiences, exchange knowledge, and consolidated the relationship with IECD. However, budget allocation and targeted professional recognition of the ECCE Technical Team may need further attention.

Panel Discussion

The panel members that followed consisted of Dr. Leste, CEO IECD, Principal Secretary Primary and Early Childhood Education, Principal Secretary Social Affairs, Principal Secretary Local Government, and, Deputy Chief Executive Officer, Health Care Agency. It was moderated by Mrs. Catriona Monthly, Psychologist at the Ministry of Education.

Implementation success

The ECCE Teams were applauded for their commitment to the plan, their efforts in pursuing its implementation and their persistence to overcome barriers to its implementation. Dr. Leste described the technical team as the “powerhouse” of the action plan. Referring more specifically to the 100% success in implementing projects in the plan at IECD, Mrs. Shirley Choppy outlined three main strategies: planning- ensure that the projects are an integral part of the plans in IECD Programmes; establishing structures for support, monitoring and reporting; providing technical leadership; and adopting a collective working approach.. Capt. David Savy, Chairperson of the IECD Board, drawing from his corporate and chairmanship experience described IECD a model organisation: its plan is well-mapped out and the planning, measure, review strategies are very effective.

Budget

Funding for ECCE formed a large part of the discussion. It was mentioned that lack of funds in project implementation is de-motivating that the limitations in project implementation have been mainly due to unavailability of funds, and that, perhaps, new funding mechanisms need to be explored.

The Principal Secretary for Local Government clarified that the high cost for the construction of Day Care Centres is borne by the government, however, for other ECCE Projects, grants and other financial arrangements with local and overseas partners are negotiated.

The Principal Secretary for Social Affairs claimed that government budget is a key factor in the successful implementation of projects since some projects are then institutionalised and they would need continuous funding. Therefore it is necessary to make sure the projects are well integrated in the national plan and funded in the national budget. The use of the Special Children’s Fund can be an option but project has to be specific with limited timeframe.

The Deputy Chief Executive Officer for Health Care Agency reiterated that projects need to be well-planned and budgeted for effectively implementation. She recounted the delays in the implementation of the neonatal screening project because of funding issues. However, she was

pleased to announce that funding for the project has been obtained from three sources: national allocation, external funding, and Special Children's Funds and she was convinced that the project will be launched in the third quarter of 2019.

The Principal Secretary for Education confirmed that the allocated budget will never be sufficient and that it will be necessary to seek other sources of funding to finance projects.

Captain David Savy added that funding will always be a problem and he suggested that three most essential areas should be prioritised and ensure that funding is available. The following three areas were identified: early learning, early detection and community involvement.

The Chief Executive Officer of IECD explained that it is within the mandate of IECD to mobilise funds for the Institute, however, IECD coordinates the implementation of the plan, she has found it necessary to step in and lend a hand in seeking funds for projects in other sectors. She recounted the elaborate exercise to solicit financial support from the private sector and parastatal organisations. That exercise could not be repeated due to time and human resource constraints. She insisted that all the sectors at ministerial level should have a discussion with the Ministry of Finance for an agreed percentage of the national budget to be allocated to ECCE as it is the case in many SADC countries. This discussion should take place before the budget allocation exercise so that an increase in the budget for the ECCE Sectors will feature in the year 2020.

Mrs. Jeanne Simeon, Minister for Education, explained that it is important that the planned projects for ECCE are in line with the strategic plan of the sector so that government funding will be more forthcoming. As for the Ministry of Education, ECCE is a programme in PPBB plan. She also mentioned the National ECCE Trust Fund which finances mostly educational resources for certain projects. However, she reassured participants that the intention to have an ECCE disaggregated budget has been tabled. She concluded her intervention by thanking Dr. Leste for producing the report and encouraging all sectors to work together and maximize efforts in anticipation of the next plan.

ANNEX 3: PROGRAMME



Second International Biennial Conference on Early Childhood Care and Education

'Big Data for Small Children: Monitoring Holistic Early Childhood Development' Programme for Opening Ceremony

International Conference Centre Seychelles, Thursday 21st February 2019

Time	Order of Events
3:30 pm	<ul style="list-style-type: none"> Arrival & Photo Wall Session
4:30 pm	<ul style="list-style-type: none"> Welcoming Remarks Minister of Education & Human Resource Development & Chairperson of Conference Organising Committee, Honourable Mrs. Jeanne Simeon
4:35 pm	<ul style="list-style-type: none"> Welcoming Song
4:40 pm	<ul style="list-style-type: none"> Keynote Address H. E. Director of the UNESCO-International Bureau of Education, Dr. Mmantsetsa Marope
5:10 pm	<ul style="list-style-type: none"> Opening Address His Excellency, the Vice President of the Republic of Seychelles, Mr. Vincent Meriton
5:30 pm	<ul style="list-style-type: none"> Cultural Presentation
5:40 pm	<ul style="list-style-type: none"> Presidential Highlighted Panel & Moderated Dialogue: Big Data for Human Development Outcomes Chair: H. E. the Honorable Designated Minister & Chairperson of High Level ECCE Policy Committee, Mrs. Macsuzy Mondon Plenary speaker: Neo Xiong, founder of Neo Bear, a creative technology brand for children Plenary Speaker: Ina Linden, Director of Gothenburg preschools, Sweden Moderator: Mr. Pat Matyot
6:40 pm	<ul style="list-style-type: none"> Cultural Presentation
7:00 pm	<ul style="list-style-type: none"> Cocktail Reception



Second International Biennial Conference on Early Childhood Care and Education
'Big Data for Small Children: Monitoring Holistic Early Childhood Development'
Day 2: Main Conference, ICCS – 22nd February 2019

PROGRAMME		
Time	Event	Speaker/chair
8:00	Arrival, Registration & Group Photo Session	
8:50	Welcoming Remarks	Mr. Jean-Paul Adam , Minister of Health, Seychelles
SHOWCASING BEST PRACTICE PILLARS OF RESILIENT ECCE SYSTEMS		
9:00 – 9:20	Institutional Framework	Mrs. Shirley Choppy , CEO, IECD of Seychelles
9:20 – 9:40	Legal Framework	Dr. Mmantsetsa Marope , Director, IBE-UNESCO
9:40 – 10:00	Policy Framework:	Prof. Guo Liang-Jing , East China Normal University of Shanghai, China
10:00 - 10:20	Programmatic Framework	Dr. Ina Linden Furtenbach , Director, Preschools Department, City of Gothenburg, Sweden
10:20 – 11:00	Morning Break	
11:00 – 11:20	Financing Framework	Prof. Katsuki Sakaue , University of Osaka, Japan
11:20 – 11:40	M&E Framework:	Prof. Sally Brinkman , University of Adelaide, Australia
11:40 – 12:00	Q & A Session	Moderator: Dr. Maggie Louange , Director General Public Health Authority, Seychelles
COMMON CHALLENGES IN BUILDING DATA FOR RESILIENT ECCE SYSTEMS		
12:00 – 12:30	Challenges from the Partner countries covered in the Dubai Cares funding: round table with Cameroun, ESwatini, Laos, Rwanda, Seychelles.	Moderator: Cristian Fabbi , IBE-UNESCO
12:30 – 13:45	Lunch Break	

PROMISING PRACTICES IN DATA MAGEMENT FOR RESILIENT ECCE SYSTEMS		
13:45 – 14:15	Virtual tour of the Seychelles Health Sector Example	Institute of Early Childhood Development & Health Sector
14:15 – 15:00	Promising practices in data management for resilient ECCE systems. Presentation of good practices	Mrs. Sherilyn Sia , Singapore (Education) Mr. Aniruddh Gupta , Safari Kids, India (Education)
15:00 – 15:20	Q & A Session	Moderator: Dr. Meggie Louange , Director General Public Health Authority, Seychelles
15:20 – 15:40	Presentation of HECDI (Holistic Early Childhood Development Index)	Prof. Sally Brinkman , University of Adelaide, Australia
15:40 – 16:00	Questions and Answers	Moderator: Dr Danny Louange , CEO, Health Care Agency, Seychelles
WRAP UP OF KEY MESSAGES FROM DAY 2		
16:00 – 16:15	Key messages of the day	Dr. Andre Leste , Independent Consultant at IECD (Chief Rapporteur), Seychelles
16:15	Afternoon break	
18:15	Cultural event for overseas delegates	

Day 3: Main Conference, ICCS – 23rd February 2019

DRAFT PROGRAMME		
Time	Event	Speaker/chair
8:30	Arrival & Registration	
9:00 – 9:10	Welcoming Remarks	Mrs. Mitsy Larue , Minister of Family Affairs, Seychelles
9:10 – 9:40	Promising practices in data management for resilient ECCE systems. Presentation of good practices	Dr. Staffan Lekenstam , Department of data management, Gothenburg, Sweden (Health) Dr. Elma Tershana , Observatory of Children Rights, Albania (Social policies)
9:40 – 10:00	Q & A Session	Moderator: Dr. Cristian Fabbi , IBE-UNESCO
10:00 – 10:30	Presentation: “Quels sont les impacts de la révolution digitale sur les jeunes enfants?”	Dr Anne-Lise Ducanda , Experte sur la Surexposition des enfants aux écrans, France
10:30 – 11:00	Tea Break	

KEY CAPACITY DEVELOPMENT CHALLENGES		
11:00 – 11:30	Q & A Session	Moderator: Mrs Marie-Josee Bonne , Principal Secretary Family Affairs, Seychelles
11:30 – 11:50	Big data for better early childhood development outcomes: What will it take?	Mr. Egbert Benstrong , Independent Consultant of IECD, Seychelles
11:50 – 12:15	Contributions from the floor to fill up missing key points. (NOT Q&A)	Moderator: Mrs Linda William-Melanie , Principal Secretary of Social Affairs
12:15 – 12:30	Drafting Committee finalizes and circulates hard copies of the Outcome Document	Coordinator: Prof. Eric Hamilton , IBE-UNESCO
12:30 – 14:00	Lunch Break [Review of Draft Outcome Document]	
HIGH LEVEL MINISTERIAL ROUNDTABLE ON THE WAY FORWARD		
14:00 – 14:30	Drafting committee circulates hard copies of the Outcome Document and collect feedback	Prof. Eric Hamilton , IBE-UNESCO
14:30 – 15:20	Towards Big Data for Holistic Early Childhood Development and SDGs	Ministerial round table
15:20 – 15:30	Discussion and Endorsement of the Conference Outcome Document	Moderator: Prof. Sally Brinkman
15:30 – 15:45	Reflections by The Director of the IBE-UNESCO	H.E. Director of the IBE-UNESCO, Dr. Mmantsetsa Marope
16:00 – 16:20	Presentations of Certificates	Dr. Erna Athanasius , Ambassador for Women and Children, seychelles
16:20 – 16:30	Conference Closing Address	H.E. Mrs. Macsuzy Mondon , Designated Minister & Chairperson of High Level Policy Committee
16:30 onwards	Afternoon Break & Departure [& Interview with the Press]	

End of Programme

ANNEX 4: LIST OF REGISTERED PARTICIPANTS

OFFICIALS

NAME	COUNTRY	POSITION	ORGANIZATION
Eric Hamilton	Switzerland	IBE-UNESCO	UNESCO
Sherilyn Sia	Singapore	IBE-UNESCO	UNESCO
Aniruddh Gupta	China	IBE-UNESCO	UNESCO
Cristian Fabbi	Italy	IBE-UNESCO	UNESCO
Anne-Lise ducanda	France	IBE-UNESCO	UNESCO
Katsuki Sakaue	Japan	IBE-UNESCO	UNESCO
Elma Tërshana	Albania	IBE-UNESCO	UNESCO
Liangjing Guo	China	IBE-UNESCO	UNESCO
Khaled Abdalla	Egypt	IBE-UNESCO	UNESCO
Mmantsetsa Marope	Switzerland	IBE-UNESCO	UNESCO
Jianming Xiong	China	IBE-UNESCO	UNESCO
Sally Brinkman	Australia	IBE-UNESCO	UNESCO
Themba Nhlanganiso Masuku	Eswatini	Deputy Prime Minister	Kingdom of Eswatini
Irene de la Caridad Rivera Ferreiro	Cuba	Deputy Minister	Ministry of Education
Macszyz Mondon	Seychelles	Designated Minister	Ministry of Local Government
Jean Paul Adam	Seychelles	Minister	Ministry of Health
Erna Hellen Athanasius	Seychelles	Ambassador for Women and Children	Ambassador
Marie Josee Bonne	Seychelles	Principal Secretary	Family Department
Linda William-Melanie	Seychelles	Principal Secretary	Social Affairs Department
Bernard Valentin	Seychelles	Principal Secretary	Ministry of Health

Shirley Choppy	Seychelles	Chief Executive Officer	Institute of Early Childhood Development
Danny Louange	Seychelles	CEO Health Care Agency	Ministry of Health
Kathleen Cecile	Seychelles	Deputy CEO Health Care Agency	Ministry of Health
Shana Gertrude	Seychelles		Social Affairs Department
Mitcy Larue	Seychelles	Minister	Ministry of Family Affairs
Marie-Celine Vidot	Seychelles	Principal Secretary	Ministry of Local Government
David Savy	Seychelles	Chairperson	IECD Board
Michelle Marguerite	Seychelles		IECD Appeals Board

SEYCHELLES DELEGATES

NAME	Designation/Organisation
Poonam Verma	Trotters Stop Preschool
Lucy Barois	The Children's House Pre School
Susan Houghton	International School
Janine Hoareau	Independent School
Rebecca Fernandes	Day Care Operator
Margaret Chang-Time	Day Care Operator
Natanielle Jean-Baptiste	Social affairs Department
Hilairy Celina	Social affairs Department
Nadege Camille	Social Affairs Department
Clothilde Malcouzane	Social Affairs Department
Corine Jacques	Social Affairs Department
Chantal Cadeau	Social Affairs Department

Louisa, Bernadette Bibi	Social Affairs Department
Maryse Bresson	Social Affairs Department
Courtney Maillet	Social Affairs Department
Debra Melanie	Social Affairs Department
Bertrand Louis-Marie	Social Affairs Department
Veronica Jeanne	Social Affairs Department
Mechtilde Accouche	Social Affairs Department
Hannah Woodcock	Social Affairs Department
Emally Maria	Social Affairs Department
Sabrina Confiance	Social Affairs Department
Myriam Desir	Social Affairs Department
Angelique Azemia	Social Affairs Department
Nathasia Mathiot	Social Affairs Department
Shana Gertrude	Social Affairs Department
Julienne Low-Hong	Social Affairs Department
Beryl Laboudallon	Social Affairs Department
Angel Jeannevol	Social Affairs Department
Marie-Agnes Ally	Social Affairs Department
Marie-Nella Leitner	Social Affairs Department
Tessie Victor	Social Affairs Department
Jeannine Arissol	Ministry of Health
Jennifer Bristol	Ministry of Health
Nadia Valentin	Ministry of Health
Peggy, Mona Azemia	Ministry of Health

SEYCHELLES DELEGATES

NAME	ORGANIZATION
Veroniqua Bresson	Ministry of Health
Debbie Antat	Ministry of Health
Stephanie Desnousse	Ministry of Health
Melina Amedee	Ministry of Health
Lyndy Rath	Ministry of Health
Winnie Hoareau	Ministry of Health
Elna Nibourette	Ministry of Health
Juliette Henderson	Ministry of Health
Georgiana, Marie	Ministry of Health
Rose, Raya Houareau	Ministry of Health
Florida Bijoux	Ministry of Health
Dana Padayachy	Ministry of Health
Amelie Richemond	Ministry of Health
Fiona Paulin	Ministry of Health
Marie-Helene Niolo	Ministry of Health
Anselmine Cafrine	Ministry of Health
Jerina Adelaide	Ministry of Health
Javier Rose	Ministry of Health
Juliette Rioux	Ministry of Health
Stephanie Magdalena Charlette	Ministry of Health
Myra Ernesta	Ministry of Health
Marie-Agnes Denise Mathiot	Ministry of Health

Marie-Josée Dangkow	Ministry of Health
Nanne Bonne	Ministry of Health
Diane, Elsa Labiche	Ministry of Health
Jeanine Nourice	Ministry of Health
Rosemonde Jean	Ministry of Health
Denise, Paula Cousin	Ministry of Health
Agnes Boniface	Ministry of Health
Nicole, Sandra Esthere	Ministry of Health
Valencia Joubert	Ministry of Health
Mary-Jane Henriette	Ministry of Health
Marie-Antoinette Hoarau	Ministry of Health
Kathleen Cecile	Ministry of Health
Anne Marie Bibi	Ministry of Health
Patricia Rene	Ministry of Health
Lora Valmont	Ministry of Health
Joachim Didon	Ministry of Health
Mevis Vinda	Ministry of Health

SEYCHELLES DELEGATES

NAME	ORGANIZATION
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Naddy Joan Morel	Ministry of Health
Nicole Mussard	Ministry of Health

Margarette Chang Time	Ministry of Health
Nadia Valentin	Ministry of Health
Elna Nibourette	Ministry of Health
Irene Jumeau	Ministry of Health
Gylian Mein	Ministry of Health
Jeanne D'Arc Suzette	National Institute of Health and Social Studies
Marylene Lucas	National Institute of Health and Social Studies
Judy Josias	Ministry of Education
Marie Annette, Agnelle Valentin	Ministry of Education
Lely Antat	Ministry of Education
Linda Marie	Ministry of Education
Alain Theresine	Ministry of Education
Fatima, Laurina Alphonse	Ministry of Education
Zita, Nella Joseph	Ministry of Education
Clothilde Joubert	Ministry of Education
Germaine Gill	Ministry of Education
Lina Christina Laboudallon	Ministry of Education
Priscilla Payet	Ministry of Education
Catriona Monthy	Ministry of Education
Soucila Finette Athanase	Ministry of Education
Lina Marlene Lesperance	Ministry of Education
Monique Estelle Bellard	Ministry of Education
Wilfred Uranie	Ministry of Education
Morine Max	Ministry of Education

Syvette Raguain	Ministry of Education
Lymiah Bibi	Ministry of Education
Cynthia Lespoir	Ministry of Education
Wilhelmina Antat	Ministry of Education
Shirley Pool	Ministry of Education
Therese Azolan	Ministry of Education
Rita Bonne	Ministry of Education
Rose-Mai Jolicoeur	Ministry of Education

SEYCHELLES DELEGATES

NAME	ORGANIZATION
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Reuban Lespoir	Ministry of Education
Lilianne Lepathy	Ministry of Education
Melita Woodcock	Ministry of Education
Anifa Elizabeth	Ministry of Education
Flavie Boniface Jupiter	Ministry of Education
Vicky Gendron	Ministry of Education
Cyril Pillay	Ministry of Education
Helene Williana Basset	Ministry of Education
Rosianna Jules	Ministry of Education
Jeanne Simeon	Ministry of Education
Mary Poris	Ministry of Education
Louissette Morel	Ministry of Education

Odile Decomarmond	Ministry of Education
Merida Delcy	Ministry of Education
Odile Octave	Ministry of Education
Alex Souffe	Ministry of Education
Heidi Francourt	Ministry of Education
Jane Laurette	Ministry of Education
Marie-Antoine Bethew	Ministry of Education
Mike Morel	Ministry of Local Government
Marie-Celine Vidot	Ministry of Local Government
Murielle Marie	Ministry of Local Government
Begitta Melanie	Ministry of Local Government
Priscilla Sophola	Ministry of Local Government
Damien Ally	Ministry of Local Government
Raymonde Benstrong	Ministry of Local Government
Denis Antat	Ministry of Local Government
Miera Savy	Ministry of Local Government
Betty-Mai Sofa	Ministry of Local Government
Elsia Vidot	Ministry of Local Government
Margaret Lawen	Ministry of Local Government
Francis Remie	Ministry of Local Government
Hillary Nourice	Ministry of Local Government
Valcy Naiken	Ministry of Local Government
Moses Barbe	Ministry of Local Government
Denise Clarisse	Ministry of Local Government

Nicole Gabriel	Ministry of Local Government
Pharisianna Lucas	Ministry of Local Government
Daniel Adeline	Ministry of Local Government

SEYCHELLES DELEGATES

NAME	ORGANIZATION
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Jasmine Talma	Institute of Early Childhood Development
Patsy Francourt	Institute of Early Childhood Development
Lianette Morel	Institute of Early Childhood Development
Vereine Louis-Marie	Institute of Early Childhood Development
Shirley Choppy	Institute of Early Childhood Development
Julina Madeleine	Institute of Early Childhood Development
Terry Mangroo	Institute of Early Childhood Development
Laurette Lebon	Institute of Early Childhood Development
Marvel Simeon	Institute of Early Childhood Development
Annie Vidot	Early Childhood Care and Education Trust Fund
Amelie Nourice	
Sherlyn Hassan	Seychelles Broadcasting Corporation
Carol Nicette	Seychelles Broadcasting Corporation
Suzanne Ambetsa	National Institute Science Technology Innovation
Patsy Moustache	Ministry of Foreign Affairs
Sharon Meriton-Jean	National Council for Children
Fatma Bibi	National Council for Children

Marie-Therese Gopal	National Bureau of Standards
Sylma, Jennita Benstrong	National Bureau of Standards
André Leste	Consultant
Egbert Benstrong	Consultant
Samantha Jules	Campaign for Awareness Resilience and Education
Nancy Henry	Campaign for Awareness Resilience and Education
Nafissatou Diallo	Department of Information and Communication Technology
Ruth Mohotti	Department of Information and Communication Technology

INTERNATIONAL DELEGATES

Arti Singh	Fiji
Lavinia Tiko	Fiji
Nelisiwe Nick Ndwandwe	Eswatini
Sibongile Mavis Mtshali - Dlamini	Eswatini
Bonisile Nhlabatsi	Eswatini
Hlobsile Dlamini	Eswatini
Juana Cristina Menéndez Díaz	Cuba
Mayda Lien Pérez Carballada	Cuba
Yuvasnovys Maceo Pérez	Cuba
Sissi Fan	China
Adidja AMANI	Cameroon
Daiferle Mamat Madeleine	Cameroon
Mairama Doubla	Cameroon
Jameel Humaidan	Bahrain

Khalid AlKoheji	Bahrain
Mohamed Alawadhi	Bahrain
Jaafar Alshaikh AlSatri	Bahrain
HUKAM CHAND CHOUDHARY Honey	India
SURENDRA KUMAR TETARWAL SUREN	India
MAHENDRA SINGH SHEKHAWAT MAHEN	India
Yun Feng	Italy
Alfred Benedict Chan	Singapore
Lynn Heng	Singapore
Angela Chng	Singapore
Geraldine Teo-Zuzarte	Singapore
Immaculee Kayitare	Rwanda
Nadia Al Maamari	Oman
Siphaphone Manivanh	Laos
Daoduangchanh Boulommavong	Laos
Panya Chanthavong	Laos
Souvanthone Souvannachack	Laos
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INTERNATIONAL DELEGATES

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Vusu Dlamini	Mozambique

Mr. Rajar Malik Kamran A. Khan	Pakistan
Mrs. Marie Alexandra Arekion	Mauritius
Mr Ahmad Soogali	Mauritius
Ms Hendrietta Ipeleng Bogopane-Zulu	South Africa
Mr Simon Mfana Zulu	South Africa
Ms Isabella Sekawana	South Africa
Mr Edzisani Ramaite	South Africa
Ms Matshediso Kgare	South Africa
Ms Hlanganani Mathonsi	South Africa
Ms Tlhompho Bogopane	South Africa
Ms. Joyce C. Chamuhulo	Tanzania
Staffan Lekenstam	Sweden
Ina Linden	Sweden