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Title of Paper:

Initiatives for strengthening economic statistics through statistical literacy

Abstract

This paper explores approaches to increasing statistical literacy to strengthen economic statistics for evidence-based policy making. Users of the statistics must be proactive in terms of their use and critical evaluation of statistics. Also, data providers must be aware of the shortcomings for their imputed response and nonresponses. Responsible citizens should understand why statistical information are needed, and how reliable statistics are produced. They need to be more statistically literate so they can think critically, challenge the veracity of numbers in the media and correctly interpret an article or debate.

Data sources, sound methodology, international standards and classification are the major components of robust, accurate, comparable and reliable statistics. Along with these, statistics literacy plays equally important role for the strong economic statistics. Statistical literacy is a term used to describe an individual's or group's ability to understand statistics so that they can apply them, for example, in making evidence-based policy. Sustainable Development Goal (SDG) 8 aims to achieve decent work for all and economic growth. Measuring progress towards this goal requires efficient statistics. Statistical literacy is needed to provide efficient statistics that direct to the estimation of economic growth.

This paper is descriptive in nature and some tables and graphs have been used in order to explain the study. This paper is based on the findings of a User Satisfaction Survey conducted by the Central Bureau of Statistics (CBS). Observations from a case study are also used in order to consider the literacy level of the data producers. The views of 120 respondents among media, academics, business operators, students and politicians on the economic statistics have been taken in order to assess statistical literacy. It is observed that there is significantly weak levels of statistical literacy. Hence, this paper prescribes the formulation and effective implementation of the programs and policies targeted to enrich the capacity of data users. It is also observed from the study that the effective dissemination policy plays an important role in strengthening statistical literacy.

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1. Introduction

Statistical literacy is the ability to understand and reason with statistics and data. The ability to understand and reason with data, or arguments that use data, are necessary for citizens to understand material presented in publications such as newspaper, television and the internet. The term "statistical literacy" refers broadly to two interrelated components, primarily (a) people's ability to interpret and critically evaluate statistical information, data-related arguments, or stochastic phenomena, which they may encounter in diverse contexts, a relevant (b) their ability to discuss or communicate their reactions to such statistical information, such as their understanding of the meaning of the information, their opinions about the implications of this information, or their concerns regarding the acceptability of given conclusions. Statistical literacy can serve individuals, institutions and ultimately nation in many ways. Statistical literacy is a term used to describe the ability of an individual or a group to understand and comprehend statistics.
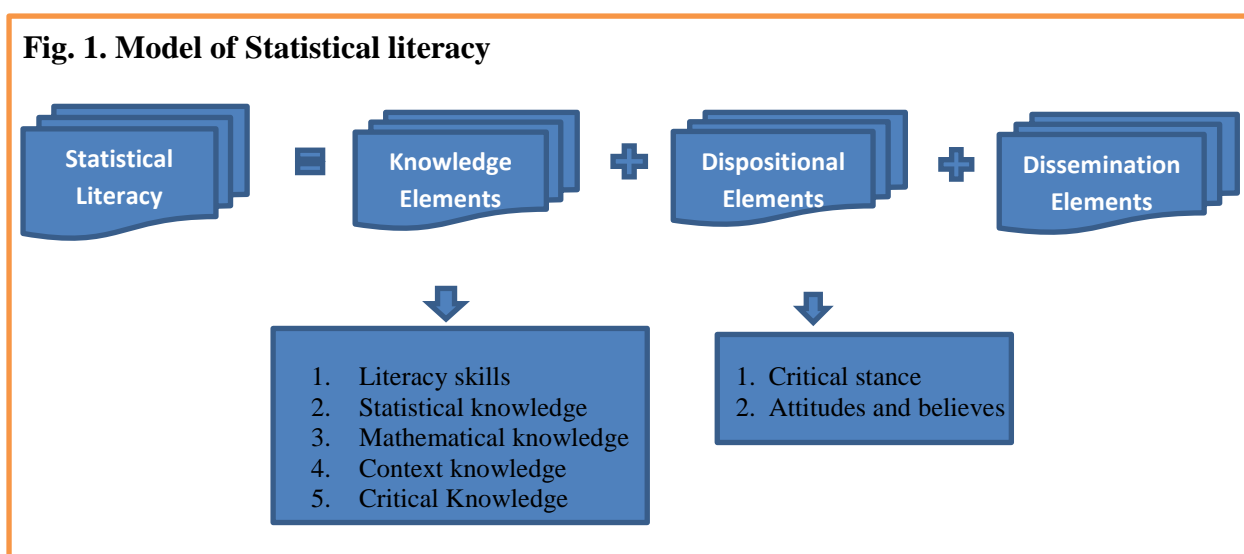
The field of statistical literacy is not new. For more than 30 years, researchers have been discussing this interdisciplinary topic in fields such as mathematics, statistics, pedagogies, psychology or linguistics. The discussion is based on the fact that statistical literacy requires many abilities. To name some of the most important ones: mathematical and statistical skills, the competency to understand the figures correctly and to distinguish between valid and misrepresented data (UN, 2011). It helps in awaking trends and phenomena of economic, social and personal importance: gross domestic product (GDP), economic growth, price and volume measures, vulnerability index, crime rates, population growth, spread of diseases, industrial production, educational achievement, or employment trends. Sustainable Development Goal (SDG) 8 aims to achieve decent work for all and economic growth. Measurement of SDG indicator requires efficient statistics. Statistical literacy is needed to provide efficient statistics that direct to the estimation of economic growth as well as other indicators of the sustainable goals.

In general, official statistics has been occupied with the output figures for a long period of time, but the statisticians started only several years ago to actually reflect on it. Namely, that the ability to understand statistics is the prerequisite for a successful communication with our users. Therefore, several initiatives had been put into practice in order to increase statistical literacy in all fields of societies: For scholars and students, for journalists, for decision makers in politics and businesses and overall for the general public. In this global age of digitization, statistical literacy seems to be the most neglected issue. People do not have enough time to think critically on the disseminated economic statistics. Furthermore, it enables people to assess the information that the figures provide and finally to understand what the actual data reveals about society. This paper has used a modified model to assess the dimensions of the statistical literacy in order to find the gaps. The dimensions of the statistics, methodologies, findings and implications as well as the way forward to mitigate the data gaps has been presented subsequently in the paper.

2. The Model

Gal (2002) introduced two components of adult statistical literacy: knowledge elements and dispositional elements. The former deals with people's ability to interpret and critically evaluate statistical information, data-related arguments or stochastic phenomena they may encounter in diverse contexts, and when relevant. The latter component deals with their ability to discuss or communicate their reactions to such statistical information, such as their understanding of the meaning of the information, their opinions on the implications of this information, or their concerns regarding the acceptability of given conclusions. Ben-Zviand Garfield (2004) distinguish between statistical literacy, statistical reasoning, and statistical thinking. They point out that statistical literacy provides the foundation for reasoning and thinking: basic statistical knowledge makes it possible to reason with statistical ideas and to make sense of statistical information. Watson and Callingham (2003) assumed that statistical literacy is a hierarchical construct. Their analysis of a large archival database of over 3000 school students using Rasch analysis supported the hypothesis of a unidimensional construct and suggested six levels of understanding: idiosyncratic engagement, informal engagement, inconsistent engagement, consistent non-critical engagement, critical, questioning engagement and critical mathematical engagement.

In regard to the various literatures based on statistical literacy, it is observed that Knowledge elements and disposal elements proposed by Gal (2002) acts as the key components of statistics literacy. Similarly, Dissemination aspects of statistics literacy is equally important for maintaining statistics literacy. Based on the knowledge elements, disposal elements and dissemination aspects, the questionnaire is designed and statistical literacy is assessed. The expected contribution of this paper is to find the data gaps that helps in minimizing errors and awaking the users as well as suppliers of economic statistics data which leads in strengthening economic statistics. Moreover, this paper is focused in assessing literacy special on economic statistics. In-spite of this, this paper will attempt to empower academicians & researchers, practicing statisticians, policy makers, and other professionals to make sense of real world message containing statistical elements and arguments. Hence the model is proposed as following:

Fig. 1. Model of Statistical literacy

Statistical Literacy = Knowledge Elements + Dispositional Elements + Dissemination Elements

Knowledge Elements:
1. Literacy skills
2. Statistical knowledge
3. Mathematical knowledge
4. Context knowledge
5. Critical Knowledge

Dispositional Elements:
1. Critical stance
2. Attitudes and believes

The above figure indicates that the statistical literacy is the summation of the three elements i.e. knowledge elements, disposal elements and dissemination elements.

2.1. Knowledge Elements

2.1.1. Literacy skills

A discussion of literacy skills opens the review of the knowledge bases needed for statistical literacy, given that virtually all statistical messages are conveyed through written or oral text, or require that readers navigate through tabular or graphical information displays that require the activation of specific literacy skills. Depending on the circumstances, readers may have to communicate clear opinions, orally or in writing, in which case their response should contain enough information about the logic or evidence on which it is based to enable another listener or reader to judge its reasonableness.

2.1.2. Statistical/Mathematical knowledge

An obvious prerequisite for comprehending and interpreting statistical messages is knowledge of basic statistical and probabilistic concepts and procedures, and related mathematical concepts and issues. It includes number sense, understanding variables, interpreting tables and graphs, aspects of planning a survey or experiment, such as what constitutes a good sample, or methods of data collection and questionnaire design.

2.1.3. Context knowledge

Moore (1990) has argued that in statistics, the context motivates procedures; data should be viewed as numbers with a context, and hence the context is the source of meaning and basis for interpretation of obtained results. In Reading contexts, however, people do not engage in generating any data or in carrying any computations or analysis. Their familiarity with the data-generation process (e.g., study design, sampling plan, questionnaires used), or with the procedures employed by the researchers or statisticians to analyze the data, depends on the details and clarity of the information given in the messages presented to them.

2.1.4. Critical questions

Messages aimed at citizens in general may be shaped by political, commercial, or other agendas which may be absent in statistics classrooms or in empirical enquiry contexts. The statement by Fred Mosteller, *"Policy implies politics, and politics implies controversy, and the same data that some people use to support a policy are used by others to oppose it"* justify the meaning of it.

2.2. Dispositional Elements

The notion of "critical evaluation", highlighted in several of the conceptions of statistical literacy cited earlier (e.g. Wallman, 1993), implies a form of action, not just passive interpretation or understanding of the statistical or probabilistic information available in a situation. It is hard to describe a person as fully statistically literate if this person does not show the inclination to activate the five knowledge bases described earlier or share with others his or her opinions, judgments, or alternative interpretations. The term 'dispositions' is used here as a convenient aggregate label for three related but distinct concepts, critical stance, beliefs, and attitudes, which are all essential for statistical literacy. These concepts are interconnected

and hence are harder to describe in a compartmentalized way, unlike the description of the knowledge bases above. This section first describes critical stance, and then examines beliefs and attitudes that underlie a critical stance.

2.2.1. Critical instance

A first expectation is that users and suppliers of the data hold a tendency to adopt, without external suggestions, a questioning attitude towards quantitative messages that may be misleading, one-sided, biased, or incomplete in some way, whether intentionally or unintentionally (Frankenstein, 1989). It is important to keep in mind that willingness to raise action by users as well as suppliers of the data when they encounter statistical information or messages may sometimes be required under conditions of uncertainty. Examples are lack of familiarity with the background of the issues discussed or estimates conveyed, partial knowledge of concepts and their meanings, or the need to cope with technical terms that "fly above the head" of the Reader.

2.2.2. Attitudes and beliefs

Certain beliefs and attitudes underlie people's critical stance and willingness to invest mental effort or occasionally take risks as part of acts of statistical literacy. There is a definitional challenge in discussing "beliefs" and "attitudes" as the distinction between them is somewhat murky. (Researchers, for example, often implicitly defined statistics attitudes or beliefs as whatever their favorite assessment instrument measures in the context of a specific target population, such as school students, college students, or adults at large). Attitudes are relatively stable, intense feelings that develop through gradual internalization of repeated positive or negative emotional responses over time. Attitudes are expressed along a positive-negative continuum (like-dislike, pleasant-unpleasant), and may represent, for example, feelings towards objects, actions, or topics ("I don't like polls and pollsters, they always confuse me with numbers"). Beliefs are individually held ideas or opinions, such as about a domain ("government statistics are always accurate"), about oneself ("I am really naive about statistical information", "I am not a numbers person"), or about a social context ("The government should not waste money on big surveys".

2.3. Dissemination Elements

Along with the knowledge and disposition elements, the dissemination element is also equally responsible to spread statistical literacy among the users and suppliers of statistics. Dissemination is the act of spreading knowledge to the users, suppliers as well as interested stakeholders related to the task. The techniques of the dissemination play important role in giving insight in various aspects of the data.

3. Methodology of the Study

This paper is mainly based on the information extracted from the user's satisfaction survey conducted by CBS. In order to facilitate the paper some information related to economic statistics have been used from the case study.

3.1. Users' satisfaction survey

The user's satisfaction is based on the responses of 1200 users covering almost whole part of Nepal. The intended objective of the survey was to know the satisfaction level of the users of the data published by the national statistics office of Nepal. This survey doesn't take into

account the data producers' side. In this satisfaction survey, user's perception, attitude or feelings on CBS' statistical products like publications and data and services like distribution of publications and data, presentation of website and free statistical consultancy services to concerned agencies. Various domains of users have been used in order to draw the inference.

3.2.   The case study

The case study was basically focused on drawing the inference on the statistically literacy based on economic statistics. This is based on the model presented in Fig. 2.1. Various domains of users and data producers have been used in order to draw the inference. About 120 responses have been analyzed. The study is highly concentrated in the capital city as observed that 70% of the active users of the economic statistics reside in the capital city. The inference drawn from the study is applied to the whole. The sample is allocated in such a way that 20.8% of the responses are obtained from private organization followed by scholars & academics and government & semi-government agencies (16.7%), researchers and scholars (13.3%), households (12.5%) and politicians and civil societies (10%). Among the above domains, users and producers have been separated.

4.   Findings

4.1. Findings from users' satisfaction survey

4.1.1. Users information

The demographic and geographic distribution of the statistical users of CBS publications and data reveals that most of the users are located in Province 3, especially in Kathmandu with higher level of education aged 20 years and above. Population statistics were found to be the most preferred or required sector of statistics of most of the users (64.6%) followed by education and literacy (9.4%) and health (4%).

4.1.2. Use of CBS data and publications

The CBS statistics of various sectors are accessible to users through publications, CD-ROMs and website. It also provides the microdata of some major surveys and censuses to bona fide users with conditions. However, the users of microdata are found limited as compared to the published data. Among published data the population statistics is recorded as the most preferred sector among users. It is good to notice that most of the users consider the statistics provided by CBS is good and reliable than similar statistics produced by other related government agencies.

4.1.3. Quality of CBS statistics

The assessment of quality of the CBS statistics and publications is the main purpose of this survey. The survey findings indicate that both publications and statistics received an average quality rating from the users and thus urges for improvement with betterment of different dimensions.

4.1.4. User's perspective on web

A timely updated user-friendly website is a fundamental quality of any organization. In total, about 82% of the surveyed users used CBS website mainly for updating and downloading CBS

publications and data. The higher percentage of website users shows the importance of CBS website in disseminating data and information. The users' evaluation of CBS website shows a medium quality of standard considering different aspects of the website like its design and appearance, coverage and organization of the information and user-friendliness. That is, it leaves a big room for CBS to improve the quality of its website.

4.1.5. User's perspective of dissemination of statistics

The findings show most of the users are agreed with the current mode of dissemination of CBS statistics, but they suggest maximizing the use of website in CBS dissemination. The users want more data and information in digital form directly downloadable from CBS website. Likewise, the users have suggested that the CBS has to update the website regularly, provide digital copies of publications and data on website and provide statistical literacy and advocacy program to potential users to promote the use of statistics produced by CBS. Furthermore, the users have also expressed their additional data need which has to be a major concern of CBS to meet the current demands of users' needs and to provide development data for national and international priorities.
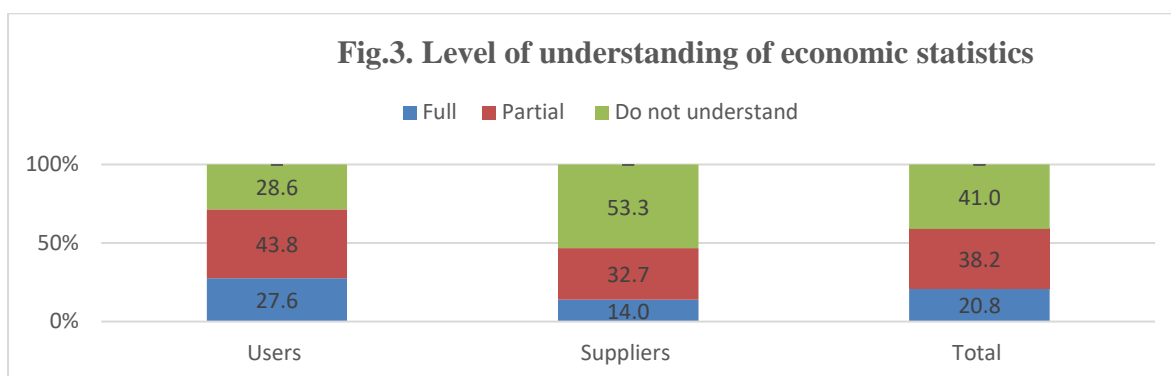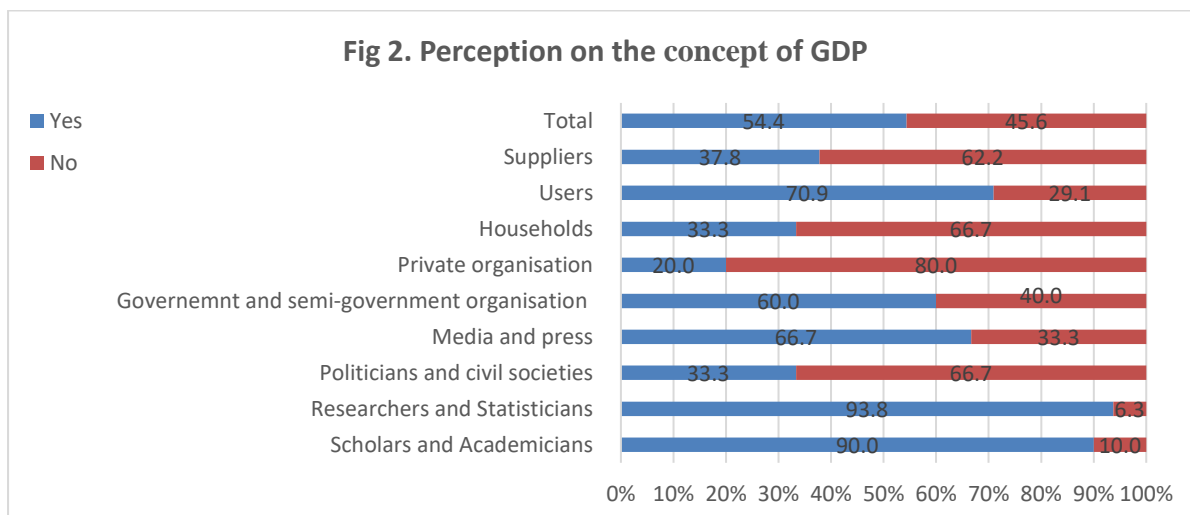
4.2.   Findings from the case study

This case study is intended to assess the statistical literacy in terms of economic statistics. For this, questionnaires based on the above stated model is designed and following responses have been derived and presented.

4.2.1.   Knowledge elements

Five questions regarding knowledge elements has been used. First question was to know the response in the difference between Statistical literacy and general literacy. It is found that about 53% of the respondents do not have the idea between the differences. Similarly, the second question was to know the response on the concept of GDP. It is found that about 46% are unknown of the concept of GDP. The third question was to know the response on the acquaintance with the indices. It was observed that about 60% of the people are not acquaintance of the indices. The fourth question are related with level of understanding of the economic understanding. It was observed that 80%(included partial understand too) of the respondents were not clear on the economic statistics and related figures. The fifth question was to assess the mathematical and statistical knowledge. It was found that almost found that about 40% of the people are less than average on the statistics and mathematics.

Among the total respondents, they were separated between the users and suppliers of the information. It was found from the study that the status of the knowledge elements of the suppliers is found to be comparatively poor than that of users of the data. Their status is shown along the following staked diagram below.

Fig 2. Perception on the concept of GDP

	Yes	No
Total	54.4	45.6
Suppliers	37.8	62.2
Users	70.9	29.1
Households	33.3	66.7
Private organisation	20.0	80.0
Governemnt and semi-government organisation	60.0	40.0
Media and press	66.7	33.3
Politicians and civil societies	33.3	66.7
Researchers and Statisticians	93.8	6.3
Scholars and Academicians	90.0	10.0

Fig.3. Level of understanding of economic statistics

	Full	Partial	Do not understand
Users	27.6	43.8	28.6
Suppliers	14.0	32.7	53.3
Total	20.8	38.2	41.0

4.2.2. Disposal elements

This element also includes three sets of question to assess the statistical literacy. The disposal elements seemed to have reflection of statistical illiteracy. The first question was to capture the response whether the respondents have the capacity to analyze the economic statistics. It was observed that about 85% of the total respondents do not have the capacity to analyze the economic statistics. Among it, the greatest chunk is that of suppliers. About 96% of the suppliers do not have the capacity to analyze the economic statistics.
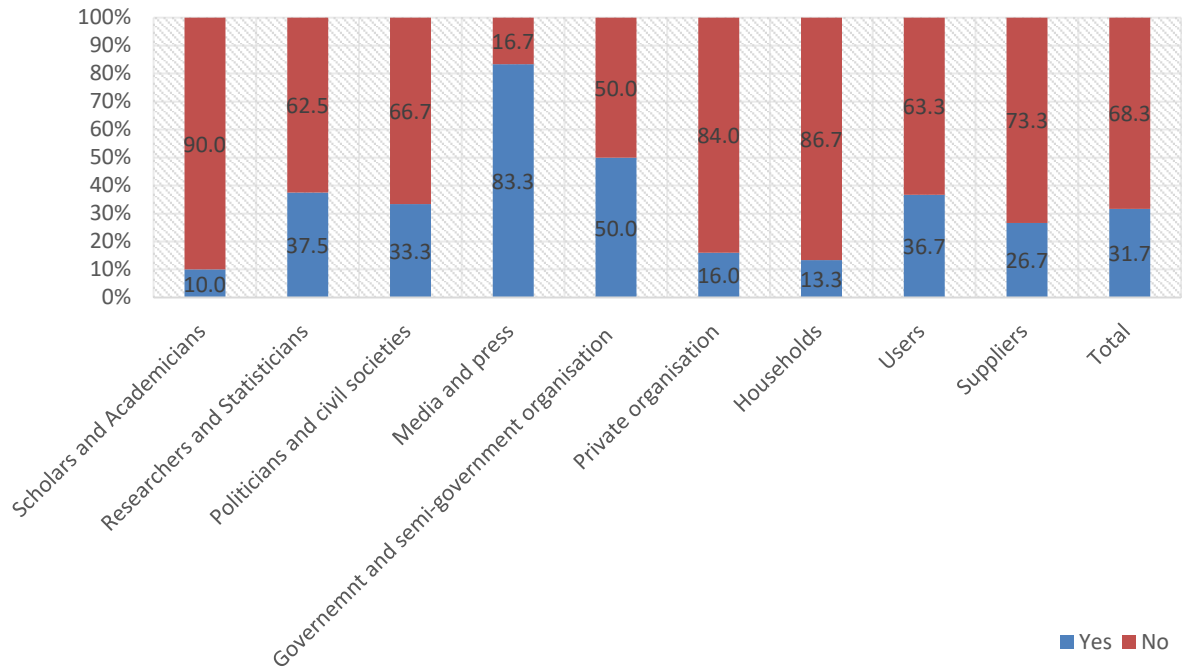
Similarly, the second question was to know the responses regarding the respondent's perception whether it represents the true scenario of the nation. And it was observed that about 45% of the respondents responds negatively (which included no idea and do not agree). Here also, the views of the suppliers find dominant in case of illiteracy. The third question is to know the perception of the respondents whether they provide the data for nation. It is found that majority of the respondents (about 64%) answered positively. The fourth question was related to accuracy and reliability of the disseminated economic statistics. It was found that 35% of the respondents do not have the idea on regard to accuracy and reliability. The last question was to know about the hindering factors for supplying the true information. It is found that among the options (Fear of taxation, lack of systematic record keeping technique, lack of digitalization and monetization, all of the above), all of the above have 50% responses.

Fig 4. Capacity to critically analyze the economic statistics

Fig.5. Reliability of the Economic statistics
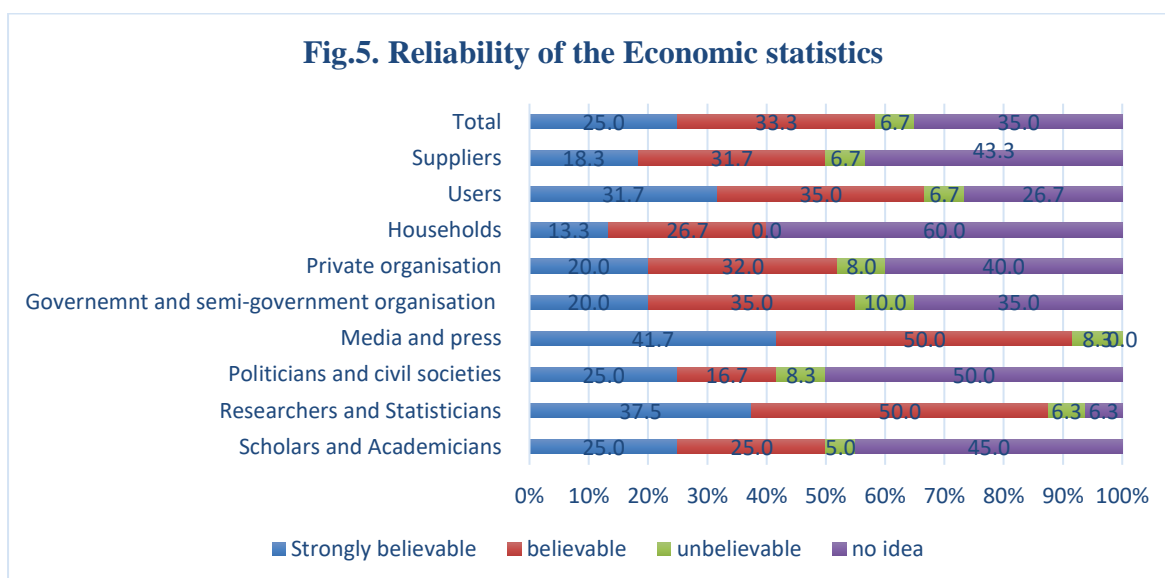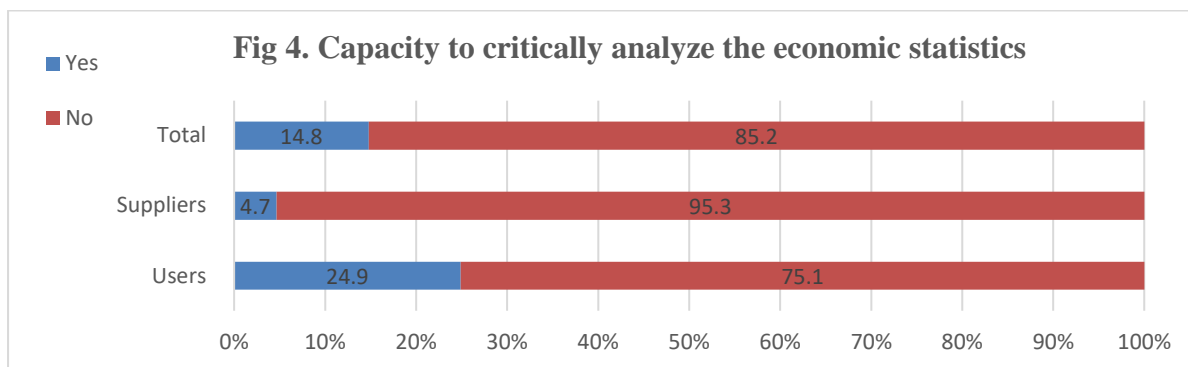
4.2.3. Dissemination Elements

This element includes three set of questions. First question was to know the responses on the notification during the dissemination of economic statistics. It was observed that about 68% of the respondents are unknown of the release calendar of the economic statistics. Similarly, the second question was to obtain the response on the satisfaction level of the dissemination policy of the government. It was observed from the study that 47% of the total respondents are not satisfied with the dissemination policy of the government. The last question was to now the perception to make the dissemination policy effective. Out of the various options, release on regard to dissemination calendar, orientation of basic terminologies, revisions of academics' textbooks and all of the above), 30% responded on all of the above followed by release on regard to dissemination calendar (26%), Orientation of basic terminologies (25%), and revisions of academic textbooks (20%).

Fig.6. Notification about the dissemination of economic statistics

Category	Yes	No
Scholars and Academicians	10.0	90.0
Researchers and Statisticians	37.5	62.5
Politicians and civil societies	33.3	66.7
Media and press	83.3	16.7
Governemnt and semi-government organisation	50.0	50.0
Private organisation	16.0	84.0
Households	13.3	86.7
Users	36.7	63.3
Suppliers	26.7	73.3
Total	31.7	68.3

Fig.7. level of satisfaction on the dissemination policy

Category	Extremely satisfied	Satisfied	Not satisfied
Total	22.5	30.8	46.7
Suppliers	18.3	36.7	45.0
Users	26.7	25.0	48.3
Households	6.7	26.7	66.7
Private organisation	20.0	32.0	48.0
Governemnt and semi-government organisation	25.0	50.0	25.0
Media and press	50.0	33.3	16.7
Politicians and civil societies	58.3	25.0	16.7
Researchers and Statisticians	6.3	31.3	62.5
Scholars and Academicians	10.0	15.0	75.0

After the declaration of new constitution 2015, We have three tiers of government in Nepal. Central, province and local level. We have one central government, seven province government and 761 local units. The demand of the statistics figure is alarming in theses tiers of government for the formulation of evidence based policy. The sustainable development goal 2030 has advocated for descent living and economic growth in the goal 8. The achievement of the targeted indicator requires some level of statistical literacy in the economy.

The study revealed that the about 55% of the total respondents were unable to respond the answer positively on the knowledge-based questions. Similarly, about 52% of the respondents did not respond positively on the disposal-based questions. Among the total domains of respondents, the suppliers of economic statistics have lower level of knowledge than that of users. The suppliers of statistics act as the important baseline for the economic statistics. If they are unaware of the basic knowledge required to maintain the statistical literacy, then the disseminated statistics may not truly reflect the scenario of the nation. The suppliers may suppress, manipulate and impute the information. Hence, the result may mislead and would not direct to evidence-based policy making. The important elements on the model was the dissemination element. It is found that about 68% of the total respondents are unaware of the dissemination policy and are not notified during dissemination. About 47% of the respondents are not satisfied with the dissemination practices. Similarly, various modes of responses regarding the expectation of effective dissemination has been obtained from the study.

5.   Implications and the way forward

Statistician Kings stated "Statistics are like clay from which one can make god and demon as on pleases." So the level of accuracy and reliability of the economic statistics depends on the producers/Suppliers and users of statistics. The dissemination aspects are equally important for strengthening economic statistics in the LDCs and developing economies like Nepal. The economic statistics are strong in case of developed countries. As they have mostly accounted their informal sector. Whole economy is transparent and almost digitalized. In this regard it is very easy to extract the data related to economic statistics that represent the true scenario of the nation. But the case is just opposite in case of the developing and LDCs like Nepal. The whole economy is not yet digitalized and even not monetized. There is another strong belief that *'women should not be asked her age and men should not be asked his income'*. This deeply held belief has adverse impact on supplying true economic statistics data. The statistical literacy has immense importance for the achievement of the targets stated in the SDGs. These are the important bases for the evidence-based policy making in the country. Along with this, these calculated statistics based on the international standard and guidelines statistics helps in the comparing the relative difference of the nation in the international arena.

The data gap seen in the actual refection and estimation occurs due to the above-mentioned reasons. Hence, these data gaps need to be addressed within a certain time frame in order to make the data more reflective, more representative and more accurate. The dissemination policy is conventional, and the published estimates and figures are too vague and too technical to understand. The national statistics office (CBS) has been using different mode of dissemination of final results of survey, census and national accounts estimates. The most common modes of statistical dissemination in CBS are press release and media, website, publications, seminar and stakeholder meetings. But the press release and dissemination programs are highly concentrated in the capital city. Due to this, in previous days, the literacy level was not satisfactory in spite of the availability of the statistics. But in recent days, several attempts have been made to initialize the dissemination work at the regional level after the consideration of statistical literacy. The program to orient the basics and methodology on the national accounts estimates for the press/media, government officials and non-government organization is approved and is in the stage of implementation.

Although the program and policies been formulated, it takes some time lag for the execution. Moreover, Followings are the major key points that need to be considered in order to minimize the data gaps:

5.1. Effective Implementation of awareness program

The awareness-based program targeted to the specific group must be implemented and monitored effectively to ensure the required output. Ensuring that users and suppliers of the statistics are aware of the extensive data and statistics held by statistical organizations, and the importance of this information for effective decision-making, is fundamentally a statistical literacy activity. There are many strategies that statistical organizations can employ to generate awareness and interest in national statistics and their practical application to everyday life. From increasing exposure of statistics in daily newspapers to producing electronic newsletters, alert mechanisms and blogs for specific target groups, this entails a cultural change for many statistical organizations along with the development of skills for statisticians to market their statistics and present data in ways that are interesting, relevant and accessible. Several program of statistical literacy on the basics terminologies and methodologies is being carried out by government of Nepal as awareness program.

5.2. Developing strategic partnerships

The Statistical organization (SOs) cannot able to provide the reliable information unless the data related stakeholders supply the true figure. Therefore, there is necessary to establish relationships with key stakeholders. The national statistics office of Nepal is in the phase of signing the Memorandum of Understanding (MOU) between the major stakeholders of the data such as Nepal Rastra bank(NRB), Ministries, Public enterprises, private enterprise etc. This task for some of the organization has been completed and few are still in the process.

5.3. Academics focused policy

This policy can have the ability to increase the statistical literacy of school students requires the engagement of the whole education community: teachers, teacher educators, researchers and curriculum developers as well as academics and government. Statistical organizations must look for opportunities to maximize impact in the development of statistical literacy. For example, influencing the school curriculums in mathematics, science and geography to increase the focus on statistical content and statistical reasoning is an effective means of ensuring long-term and widespread outcomes.

5.4. Increasing access to information

The importance of data dissemination cannot be undermined and overemphasized. Statistical data need to be disseminated to the widest possible audience if maximum benefits can be achieved from the investment made in collecting and compiling the data in the first instance. Making data accessible and relevant is the key to improving and promoting their use across target groups. Dissemination mechanisms and systems need to make it easy for users as well as suppliers to access information. Effective dissemination depends on understanding the needs of the diverse user groups and then matching this with the appropriate medium and level of detail. Another important consideration for the dissemination of statistical information is the way it is presented. Statistical organizations need to ensure that information is clear and unambiguous. Using other mechanisms and social media platforms such as YouTube, Twitter, Blogs and Wikis to communicate across different target groups and demographic profiles is the key to promoting awareness of data and what they mean.

5.5. Developing and delivering training

It refers to the providing information seminars on the basics concepts of terminologies of the economic statistics, data sources and other didactic techniques are tangible means for statistical organizations to facilitate better understanding of statistical concepts, processes and data applications for key client groups. Training for specific groups such as teachers or journalists can be an effective way to improve community levels of statistical literacy through their intermediary roles within other target groups. Training can be presenter-based in a face to face setting, short self-help online tutorials or e-learning course modules but need to match user requirements to be effective. 'Just in time' training can also be built into online data access tools to provide users with key information at critical points.

5.6. Evaluating Outcomes

Though a cumbersome job, it has a great role mitigating the data gaps in economic statistics. Making sure that strategies to improve statistical literacy across key target groups are achieving the desired outcomes requires some way of evaluating impact. With such broad and often indirect strategies, this is not an easy task. How can we quantify an increase in the public's appreciation of the value of statistics? Promoting the uptake of knowledge and changes in behavior and attitudes relies on interacting with the client groups to gather insights into the effectiveness of dissemination strategies and continuously modifying strategies to suit purpose.

5.7. Changes in attitudes and beliefs

The deeply rooted conventional and superstitious beliefs and attitudes are also equally responsible for the data gaps in the economic statistics. It hinders in the evidence based sectoral policy making. For this, it ought to mitigate the data gaps through bringing the positive change in the attitudes and beliefs that hindering in the supply of good level of economic statistics.

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II.   Annex 1. Questionnaire

Study on evaluating the level of statistical literacy
2018

Section 1. Introduction

   1.1.Enumerator's Name: Form number:

   1.2.Respondents information
      a. Name of the respondent
      b. Sex
          i.   Male
         ii.   Female

      c. Contact Address
      d. Telephone/Mobile website
      e. Type of agency
          i.   Scholars and Academicians
         ii.   Researchers and Statisticians
        iii.   Politicians and civil societies

       iv.   Media and press
       v.   Government and semi-government organization
       vi.   Private organization
       vii.   Households
  f. Level of education
       i.   Up to SLC
       ii.   10+2
       iii.   Bachelor level
       iv.   Masters and Above

Section 2. Knowledge elements

2.1. Do you think is there any difference between Statistical literacy and general literacy?
  a. Yes
  b. No

2.2. Are you familiarized with the term Gross Domestic Product?
  a. Yes
  b. No

2.3.   Have you ever acquainted with the term Indices i.e. CPI, MPI, MPPI, WPI etc.?
  a. Yes
  b. No

2.4. What is the level of understanding of economic statistics published in newspaper or in any other media?
  a. Full
  b. Partial
  c. Do not understand

2.5. Do you have mathematical knowledge (percent, ratio etc.) and statistical knowledge (sample, census, descriptive, inferential etc.)
  a. Very good
  b. Good
  c. Average
  d. Below average

Section 3. Dispositional elements

3.1. Have you ever tried to critically analyze the disseminated economic statistics?
  a. Yes
  b. No

3.2. Do the published economic statistics figures truly reflect the scenario of the nation.
  a. Strongly agree
  b. Agree
  c. Do not agree
  d. No idea

3.3.Do you believe on the Quote Data is for nation?
  a. Yes
  b. No

3.4.How for the statistics disseminated by government are believable?
  a. Strongly agree
  b. Agree
  c. Do not agree
  d. No idea

Section 4. Dissemination elements
4.1.Have you ever notified about the dissemination of economic statistics?
  a. Yes
  b. No

4.2.Are you satisfied with the existing dissemination policy for the statistics in Nepal?
  a. Extremely satisfied
  b. Satisfied
  c. Not satisfied

4.3.How the dissemination of economic statistics can be made more effective?
  a. Release on regard to release calendar
  b. Orientation on the basic terminologies
  c. Revision of academics course boom
  d. All of the above