

## **DEVELOPMENT OF A DATA COMPILATION SYSTEM FOR GENDER- RESPONSIVE PLANNING AND MONITORING**

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### **ABSTRACT**

*This study aimed to develop a data compilation system that will support gender analysis in the university. The core activities, constituencies and potential data sources include administrative data and surveys were examined. Key informant from the constituencies were interviewed. Analysis found significant differences in the sex-aggregated data. However, these differences may not be discriminatory in nature, and due diligence has to be exerted to verify these differences. Since the data items that were identified described mostly input and outputs, local surveys that were available were also analyzed to identify potential outcome/impact indicators on critical gender issues. The data compilation system, however, is not yet complete. There are data issues that are discussed in the paper that need to be addressed through the sustained cooperation of all UPLB units with the Gender Center as the champion. Since most of the data needed for the GAD database come from administrative data of various UPLB units standard business practice on forms, classification system, definitions and concepts have to be established. Automation of the work flow will not only improve the ease of transacting with the UPLB units, but it will also support the maintenance of the GAD database.*

**Keywords:** gender analysis, GAD database, university

## **BACKGROUND AND RATIONALE**

Development and maintenance of a Gender and Development (GAD) database containing gender statistics and sex-disaggregated data is one of the institutional mechanisms that the Magna Carta of Women (MCW) prescribes to support gender mainstreaming that will identify the concerns, experiences and needs of both men and women [1]. MCW (Republic Act 9710) seeks to eliminate discrimination against women by recognizing, protecting, fulfilling and promoting the rights of Filipino women. Through its implementing rules and regulations, it mandates all government instrumentalities to adopt gender mainstreaming as a strategy for implementing the law and attaining its objectives. In a memorandum circular[2] addressed all units/branches of government, including state universities and colleges (SUCs) dated 28 November 2016, the Philippine Commission on Women (PCW), the agency mandated to make government work for the promotion, protection, and fulfillment of women's human rights to enable women and men to contribute to and benefit equally from development, enjoined all government agencies to regularly collect and generate sex-disaggregated data and statistics in support of the MCW indicators relevant to their agency.

The memorandum circular also mentioned that such data collected should be "stored and maintained in the agency's GAD database or similar system, updated as needed, and used in their policy and program development to address gender issues in their respective sectors."

The lack of a GAD database resonated in the discussions of many participants of the recent training workshop on gender statistics and analysis that the Institute of Statistics (INSTAT), UPLB jointly organized with the National Economic and Development Authority (NEDA) Region IVA for the region's local government officials involved in gender mainstreaming. The SUCs in the region were well-represented in this workshop and they echoed the need for a GAD database.

To contribute in addressing this gap, the authors developed a GAD database template for UPLB with some funding assistance from the UPLB Gender Center. This paper describes the processes that were undertaken by the authors in constructing the template which, with further consultations with the UPLB constituencies and management, could be adopted and/or revised and then populated to serve as the UPLB GAD Database. The processes that we have undergone can also inform other SUCs.

### **Developing the Data Compilation Framework**

Although it is easier to simply apply universal templates derived from previous studies [3], [4], [5] we found it beneficial to develop a framework that can be utilized effectively in a university setting such as the UPLB. We considered UPLB's core functions which are research, education and extension or outreach and cooperation. In addition, we also studied the management processes which control the core activities and where the objectives are set and regularly monitored and resources are prioritized. Another aspect that we worked on is the administrative support without which the university functions will not be performed effectively.

The classification of Lopez-Claros and Zahidi<sup>[6]</sup> was also studied to further improve the data compilation framework. This classification system is as follows:

- A. Economic Participation (e.g. sex-disaggregated data on various levels of employment or economic activity in the university; and corresponding remuneration)
- B. Economic Opportunity (e.g. promotions, professorial chairs, research leadership, wage/salary inequalities)
- C. Political Empowerment (sex-disaggregated number of deans, heads of departments, top management)
- D. Educational Attainment (e.g. sex-disaggregated data of educational attainment of faculty, staff, no. of applicants, no. of freshmen/sophomore/junior/senior)

**Figure 1. Diagram of the Data Compilation Hierarchy for UPLB**

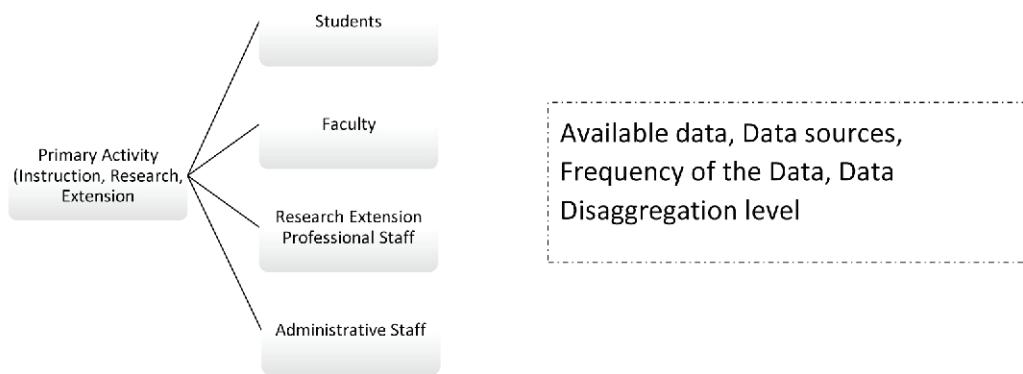


Figure 1 illustrates the data compilation hierarchy that the study team constructed.

The primary classification in the framework corresponds to the core activities of UPLB and management/administrative processes. The secondary classification is composed of the constituencies of UPLB – the students, faculty, research and extension professional staff (REPS) and administrative staff. Data are expected to be disaggregated by sex at the lowest reporting aggregation level (department, in many cases). Data frequency is usually at the shortest summary period, which is semester for students and annual for other constituencies.

The framework was finalized through a series of consultations with representatives of UPLB constituencies – students, faculty, REPS and administrative staff. To identify the list of items that will be included in the data compilation system, the team studied the outputs and transactions of potential data sources like the Human Resources Development Office (HRDO), the Office of the University Registrar (OUR), Office of Student Affairs (OSA), and other departments. Various secondary data sources like the UPLB annual reports, administrative reports of the OUR, OSA, and other departments were also examined. The study team also explored other data sources like the results of the two local surveys, the UPulse 2014 and 2015.

Key personnel from the UPLB units mentioned above were interviewed to validate the list of data items that will be compiled. The data items were listed according to the primary activity and constituency classification. The type of data items that were identified can also be classified according to economic participation, economic opportunity, political empowerment (university management level [chancellor, vice-chancellor, deans, directors] by sex) and educational attainment (of faculty, students, REPS, by sex). Analysis including descriptive statistics, visualization and in some cases inferential statistics were undertaken to identify possible gender indicators that can be regularly measured to identify and monitor issues relevant to gender mainstreaming.

## RESULTS AND DISCUSSION

The study team identified 44 potential data series that could be studied. These data series are classified across four primary activities – instruction, research, extension and administrative processes and four types of constituencies – students, faculty, research and extension professional staff (REPS) and administrative staff. The final framework cannot be presented in this paper because of the page limit. However, it is readily available upon request.

Of the 44-data series that were identified, the study team was only able to obtain 18 because the rest were in fragmented sources and some have not been digitized. The available data files came from six UPLB units and are mostly from their respective administrative reports. The digitized data tables have different reference periods and vary across time periods from different sources. Some of the results of the analyses are in Table 1.

**Table 1. Examples of Results of Analysis on the Available Data**

PRIMARY ACTIVITY	CONSTITUENCY	ANALYSIS RESULTS
Instruction	Students	The number of female students has always been greater than the number of male students every first and second semester, as well as summer/midyear terms from 2005. The most recent available data (2 <sup>nd</sup> Semester 2015-16) from the OUR showed that there are 18% more female students than males. The same trend of enrolment can be observed from all colleges of the university except for the College of Engineering and Agro-industrial Technology (CEAT), where there are more male students than females.
		There are significantly more female dormers than males in the campus dormitories but the housing gap for both male and females have not been reduced. Of the females, 19% stayed in campus dormitories, while 16% of the males reside in on-campus dormitories.
		The number of female student assistants is consistently higher than their male counterparts across academic years. Of those who were able to get student assistantships, 63% are female.
	Faculty	A long-term increase can be perceived in the delinquency (students not in good academic standing) rate of UPLB students.
		There are more female faculty members than male in

PRIMARY ACTIVITY	CONSTITUENCY	ANALYSIS RESULTS
		UPLB from 2012 to 2016. The totals for both sexes show a gradual increase except in 2016 where there is a sudden decrease in male faculty. There are more female temporary faculty members than males and their number is increasing through the years. However, the number of permanent faculty members is observed to be continuously decreasing for both sexes.
Extension	REPS	Throughout the years, the number of promoted UPLB male and female faculty members had insignificant difference. Both decreased until 2014 and increased in 2015. However, drilling down to the college level, this observation does not necessarily hold. This will be further explained in the discussion below.
Research	Faculty	There are more faculty members engage in research activities more than the admin staff and REPS. There are more females who participate in research works than male.
Administrative Support	Administrative Staff	The number of administrative personnel had been quite stable across years with the number of female administrative officers and staff that is only half of the number of their male counterparts.

To illustrate how indicators can be identified in the data compilation framework, a good example is the analysis that was done on the promotion of faculty members. While it was observed that the numbers of female and male faculty members that are promoted do not differ significantly, it was also noted that there are more female faculty members than males. Hence, when the percentages are computed instead as shown in Table 2, the results show that in general, male faculty members are consistently more likely to be promoted than females. This trend is shared by the two biggest colleges, while the rest show that for some years, the female faculty may be likely to be promoted than males. The use of percentages allows for better comparison across the years and colleges in which the numbers of faculty, male and female, differ widely.

**Table 2. Promotion of Faculty by Academic and College (Percentage of Total Female or Male)**

College	2012		2013		2014		2015		2016	
	F	M	F	M	F	M	F	M	F	M
CA	35.0	50.9	17.2	26.3	14.3	20.0	53.2	55.6	50.8	52.4
CAS	31.9	33.3	23.5	30.9	23.8	36.3	44.4	48.1	43.2	45.1
CDC	33.3	50.0	14.3	62.5	9.1	62.5	50.0	66.7	47.8	30.0
CEAT	34.3	34.8	28.2	21.7	35.9	23.9	32.6	56.9	31.8	63.4
CEM	32.3	22.2	15.6	16.7	17.6	16.0	64.5	58.6	60.0	51.7
CFNR	33.3	30.6	13.0	16.7	0.0	13.5	32.0	69.4	40.0	66.7
CHE	37.8	23.1	20.5	14.3	10.3	12.5	51.2	35.3	44.7	53.3
CPAF	28.6	14.3	0.0	0.0	0.0	14.3	50.0	71.4	47.1	57.1
CVM	12.5	28.6	5.6	23.8	5.3	18.2	58.8	66.7	45.0	59.1
UPLB	32.0	34.1	19.8	25.8	18.6	27.3	46.4	53.6	44.5	51.6

The results of Table 2 can be a cause for concern but it is not conclusive since factors other than gender that affect promotion decisions have not yet been studied. The work-life balance of male and female UPLB faculty should also be investigated since this could also affect the performance of faculty members. Do female faculty still assume solely the responsibility of rearing their children and house work on top of their work?

In addition to the administrative data that were obtained from various offices, the study team also analyzed the surveys that INSTAT conducted in 2014 and 2015. These surveys collected data among UPLB constituency -- students, teaching staff, and non-teaching staff. The results of these surveys can also guide the UPLB management on the needs of students and its staff. For example, security is the main concern among students and female administrative staff, while both male and female faculty's main concern is the instruction and curriculum, which is also the focus of the male REPs. For the female REPS, their main issue is on the university operations.

## Data Issues

The proposed data compilation system is by no means complete for full implementation since there are data issues that need to be addressed through the sustained cooperation of all UPLB units with the Gender Center as champion. The list of data items, especially those that were not obtained have to be studied and consulted with concerned UPLB units.

The data that were gathered are mostly in MS Excel filed on a semestral basis from the OUR, University Housing Office (UHO), OSA, and on a yearly basis for the other data sources. The collected MS Excel files were not configured for analytical purposes, were fragmented and cannot be readily combined. Combining these files are needed to study patterns or trends across periods. Having a standard coding system for common data items like college, department, institute, courses, semester/midyear could also facilitate linking of files.

The OUR, University Housing Office (UHO), OSA, and OVCRE provided sex-disaggregated summary data, the HRDO even generated special statistical tables. The OUR reported delinquency data by college, but without sex disaggregation from 2<sup>nd</sup> Semester 2003-04 to 1<sup>st</sup> Semester 2015-16. The highest delinquency rate (warning, probation, dismissed and permanently dismissed) is 26% in the 2<sup>nd</sup> semester of 2011-12. It would be useful if delinquency rate is examined periodically and it would even be better if sex-disaggregated delinquency rate can be computed. Another important data not compiled is the number of readmitted students by sex which are collected by college secretaries. The Pahinungod Office was not able to provide sex-disaggregated data because their report did not include it. Their report is based on the faculty service records (FSR) of all faculty members recorded in MS Excel. Unfortunately, the sex of the faculty member was not included in the file. Moreover, the digitized data tables have different reference periods. The available digitized data also vary across time periods from different sources.

## CONCLUSION

Having a sex-disaggregated database support better gender analysis and mainstreaming. The difference between the promotion rate among men and women faculty was identified and analyzed further. The data compilation system that the study team constructed also showed that an integrated database can add value to research and policy monitoring. Since enrollment and housing, for example, are compiled by two different units in UPLB, without the consolidated data set, the housing gap for students, especially females, will not be highlighted.

In a SUC like UPLB, data can come from the different administrative reports and from local surveys that are in different formats. More often than not, upon demand from management, these data were gleaned from logbooks and other manual recording systems, making digitization difficult. They may or may not have meta data (data attributes) such as the data source, basic data definition/concepts, reference data frequency, unit of measure, etc., that can indicate to users the quality/reliability of the data. Considerable statistical practice is needed to be able to consolidate these disparate data into an analysis-ready format; else, gender mainstreaming may not progress because of insufficient analysis-ready data.

## RECOMMENDATIONS

The proposed data compilation system can be fully implemented if data gaps and issues described above have been addressed. The following are recommendations to address the data gaps and issues.

- There should be a common classification system that should be adapted in all administrative reports and databases in UPLB. For the reports, this could be implemented by examining all the reporting forms, constructing the coding systems based on all possible data items and streamlining the format. For automated databases, this is a matter of harmonizing the database and revising static tables.
- Sex-disaggregated summary data should be computed wherever possible, reported and analyzed to identify possible gender issues.
- Delinquency status should be determined and periodically analyzed by tracking the outcome of each student.
- It would have been insightful if we could track the outcome of each freshman that enrolled in UPLB. For a particular batch and by sex, how many are on track to graduate on time, how many have dropped out of UPLB and how many are continuing. This could be done if the registration system will be highly automated and will be expanded to also record milestones like getting a warning, being dismissed, getting readmitted, leave of absence, permanently leaving UPLB or graduation.
- Other data source units should also automate their databases and adopt a common classification system, like HRDO. HRDO can generate special summary tables to serve this purpose probably because their database is automated. While the other data source units maintain MS Excel files of their reports, these are not databases from which statistical tables or other reports can be generated. The other data source units should also automate their databases and adopt a common classification system. Automation will not only facilitate gender analysis but also support better reporting system to support the respective mandates of UPLB units.
- UPLB should have a standard data user agreement and guidelines on data dissemination that has been vetted by the university lawyers. HRDO was not able to share unit level data because some data fields are deemed confidential. Instead of using their staff's time to generate summary data to accommodate the data request, data could have just be extracted for analysis. This can only be possible if the study team was able to obtain a data user agreement with HRDO.

The data sources mentioned provided data from their periodic reports. Without these offices' cooperation, the study would not have been completed. The previous discussion aims to achieve a better data compilation system to establish gender analysis and by no means a criticism to the UPLB units that supported the research. If all the units involved will agree, sources of gender inequality in the university will be identified. Addressing these inequalities could contribute to achieving UPLB's vision of a globally competitive graduate and research university.

## REFERENCES

- Lopez-Claros, A. and Zahidi, S. 2005. *Women's Empowerment: Measuring the Global Gender Gap*, Geneva: World Economic Forum  
[http://www.weforum.org/pdf/Global\\_Competitiveness\\_Reports/Reports/gender\\_gap.pdf](http://www.weforum.org/pdf/Global_Competitiveness_Reports/Reports/gender_gap.pdf)
- Mukoro, Akpoyovwaire. 2014. *Gender Participation in University Education in Nigeria: Closing the Gap*. International Letters of Social and Humanistic Sciences.
- Philippine Commission on Women. 2014. *PCW Memorandum Circular No. 2014-05: Adoption and Generation of Data Support to the Magna Carta of Women Indicators*.
- Philippine Commission on Women. 2016. *A Handbook on the Application of the Enhanced Gender Mainstreaming Evaluation Framework*. San Miguel, Manila.
- Swedish Secretariat for Gender Research. 2016. *Guidelines for Gender Mainstreaming Academia*.  
<http://www.genus.se/wp-content/uploads/Guidelines-for-gender-mainstreaming-Academia.pdf>
- United Nations Girls' Education Initiative (UNGEI). 2012. *Gender Analysis in Education*. New York.