

# **Report on Gender Barriers in STEM\* in Africa, Asia and the Pacific : The 2018 survey for Science and Engineering Young & Future Professionals in Africa, Asia and the Pacific Nations (APNN & ARN)\_For respondents of age 19~30.**

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## **1. INTRODUCTION**

The purpose of this survey is to evaluate how the young and future scientists and engineers perceive “gender barriers” experienced by women in STEM. The term “gender barriers” is used in this study to describe hurdles and obstacles women in STEM experience in their educational and professional lives because of their biological and social identity as women.

There are a total of 100 respondents between the age groups of 19 year to 30 years, of both gender (male and female), studying in the field of STEM, who participated in this survey. This survey is conducted as part of the joint survey led by Korean Women Scientists and Engineers (KWSE).

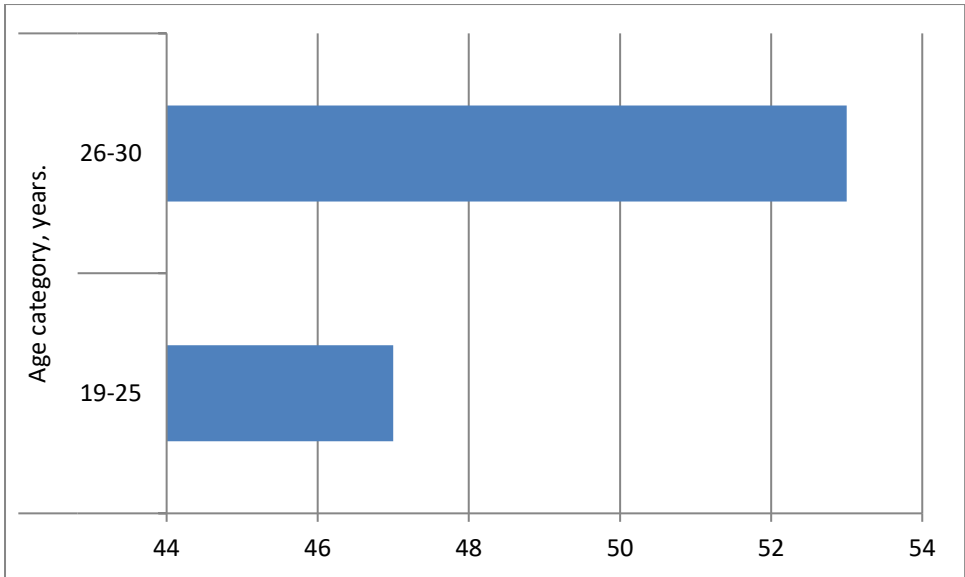
In this respect, Women in Science and Engineering in Nepal (WISE-Nepal) collaborated in this joint survey and analysed the results of the 100 responses in various closed ended standard questions given. The analysis of results are described below.

## **2. OBJECTIVES**

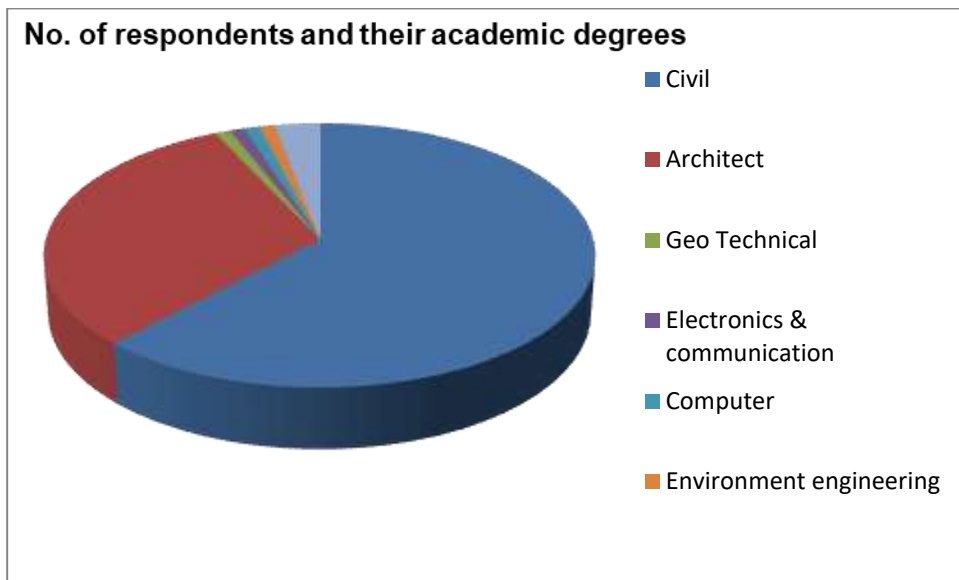
The objective of this study (survey) was to understand the perceptions of young scientists and professionals in the field of science and engineering on gender barriers faced in Nepal. The results will be used for policy recommendations at different regions of the globe in to order to reduce gender barriers faced by women in STEM, and thereby to expand women’s participation as well as to promote regional and national development in STEM.

## **3. METHODOLOGY AND LIMITATIONS**

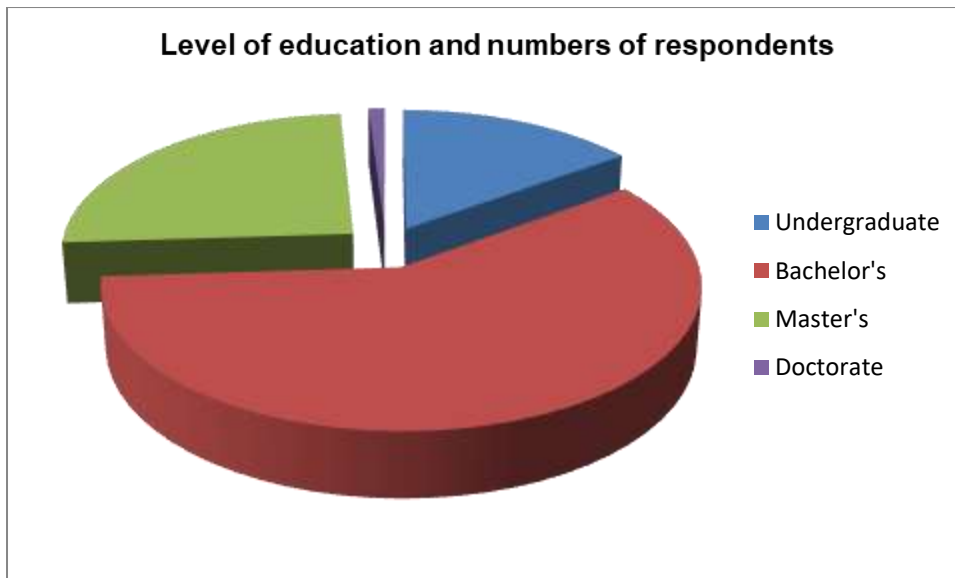
The study used the close-ended structured questionnaire. The respondents gave their perception on the questionnaire either in the hard copies or in e-copies via e-mail. Total of 100 respondents participated, who were studying or practicing in the engineering fields. Age group is purposely considered to be between 19 to 30 years of age. Out of 100 respondents, 52 are female and 48 are male. There are 53 respondents between age group of 26-30 years, whereas 47 respondents are in the age group of 19-25 years.



Most of the respondents were civil engineers (62%) followed by architects (31%). The distribution of disciplines of engineering fields of the respondents is given in the chart below.



In terms of levels of education, majority of respondents have bachelor's degree (59%), followed by master's degree students (25%), while 15% of the respondents are studying at undergraduate levels. There is only one respondent enrolled as a Ph.D. candidate. It is interesting to learn that 4 students are enrolled in universities abroad (India, USA, Japan and China each).



#### **4. RESULTS WITH RESPECT TO THE INDICATORS OF QUESTIONNAIRES**

This section below provides the information on the analysis survey results, on the key main indicators used in the survey.

##### **4.1 Gender barrier in STEM**

Majority of respondents (46%) strongly agreed that the girls and boys are equally encouraged to choose their majors in STEM. However, 36% of respondents somewhat disagreed that women in STEM receive equal work distribution and work appraisal compared to men of the same qualifications and level. Only 29% of respondents somewhat agreed that female students in STEM receive equally fair assessments and appraisals compared to their male counterparts of the same qualification and level for their work, task or project results. About 32% of respondents somewhat agreed that it is equally difficult for a woman to get a job in the STEM field than for a man with the same qualification. However, most of the respondents strongly agrees or somewhat agrees that women in STEM generally equal pay for equal work, compared with male colleagues who are equally qualified.

##### **4.2 Sexual Harassment**

It is interesting to note that majority of women respondents have talked about sexual harassment. Some of the female respondents have reported that women do face such situations and treated unfairly by their own colleagues either in class, laboratory and project groups. This is really something that needs an attention. While on the other hand, lesser male respondents have reported that they have heard women experiencing sexual harassment. The male respondents, majority of them also feel that they have never seen women being disadvantaged in accessing research equipment or information by just being a female, or they have not seen women being treated differently or unfairly in terms of receiving grade appraisals, funding supports for research, scholarships by just being a female.

Therefore, the perception of male and female respondents differs slightly on the results of these indicators.

### **4.3 Policy needs**

Over 65% of the respondents believe that things will turn out fine in future for women in STEM career if there is strong policy supports to address gender inequalities. While many of the respondents agreed or somewhat agreed to have quota or reservation policy for women to have addressed the gender inequality in STEM. And many also feel that gender equality will be fully achieved only if women are given equal opportunities as men.

### **4.4 Perception of 'gender equality or discrimination' in STEM field**

It is good to note that majority (60%) of respondents disagree on the perception of primary bread winner to be men. Similarly, 61% of the respondents believe that gender equality will be fully achieved only if women are given equal opportunities. And 71% of the respondents strongly disagree with the traditional norm that men should have greater power and authority, which is good to know.

### **4.5 Gender equality in study and research environment**

When it comes to funding opportunities, performance appraisals, application of rules and regulations, many of the respondents feel that there should be equal treatment regardless of gender. Only 32 % of the respondents feel that marriage, pregnancy have same effect on study results, project results or performances, which would mean that these respondents feel equally responsible for family regardless of being male or female.

## **5. CONCLUSION AND RECOMMENDATIONS**

The survey results showed that there are some much progresses in the perceptions of young generation regarding gender equality in STEM. If this is true, then it is for the better and achieving gender equality will be easier. However, sometimes perceptions may not always reflect the reality. The reality is that there is a gender gap (as per the statistics), there is lesser representation of women in STEM fields except in bio-sciences (both in academics and in career). The representation of women scientists and engineers in management level is far less. So, there is a room for improvements in addressing this gap through policy measures.

WISE – Nepal (Women in Science and Engineering in Nepal), thus takes a step to educate and encourage boys and girls in the high schools as a first step to address this gender gap in STEM studies. It has recently established a scholarship scheme to support economically poor female students to take up engineering in one of the reputed national universities in Nepal. In the medium term, WISE Nepal is lobbying with the government of Nepal for inclusive policies for females to access equal opportunities as males in the STEM field of study and career in Nepal. Likewise, it is constantly raising awareness at different levels for appropriate policy supports for inclusive and conducive working environment for women scientists and engineers to continue with their professional growth and careers.

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