

SUSTAINABLE DEVELOPMENT GOALS

REPORT 2024



GAZIPUR AGRICULTURAL UNIVERSITY
GAZIPUR 1706, BANGLADESH

VISION, MISSION AND OBJECTIVE OF GAU

Vision

Fostering quality teaching and research that develop highly skilled and educated people necessary to advancing the well-being of the nation in general and farming communities in particular.

Mission

Contributing to society through the pursuit of agricultural education, research and innovation for sustainable development.

Goal

Enhancing the growth and development of the farm economy in Bangladesh by providing intellectual leadership and producing quality graduates in different fields of agriculture.

Objectives

- To serve as a "Center of Excellence" for agricultural education leading to BS, MS and PhD degrees.
- To provide an education consistent with international standards through well designed academic programs.
- To conduct basic and applied research to generate appropriate and sustainable technologies in the different fields of agriculture.
- To disseminate and transfer generated technologies to the end users through training and outreach activities.
- To provide policy support focusing on local and national issues within the national agricultural research framework with emphasis on food and nutrition securities of the country.



WINGS OF GAU

Academic

US Course-credit (Trimester) system of education

Research

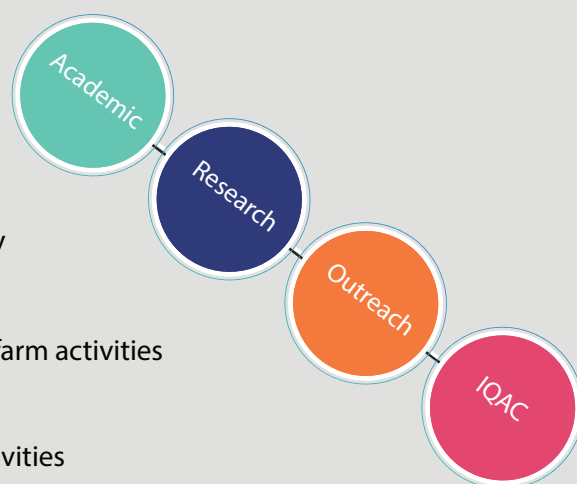
Need-based basic and applied research using frontier technology

Outreach

Disseminate and transfer technologies through training and on-farm activities

Iqac

Responsible for coordination and carrying out the assurance activities



Faculty and Academic Departments

Faculty of Graduate Studies

All MS and PhD offering departments are under the umbrella of faculty of graduate studies

Faculty of Agriculture

- Agricultural Extension and Rural Development
- Agroforestry and Environment
- Agronomy
- Agricultural Engineering
- Agro-Processing
- Biochemistry and Molecular Biology
- Environmental Science
- Biotechnology
- Computer Science and Information Technology
- Crop Botany
- Entomology
- Genetics and Plant Breeding
- Horticulture
- Plant Pathology
- Soil Science
- Seed Science and Technology Unit

Faculty of Agricultural Economics and Rural Development

- Agricultural Economics
- Agricultural Finance and Cooperative
- Agribusiness
- Rural Development
- Statistics

Faculty of Agricultural and Bioresources Engineering

- Farm Machinery and Precision Engineering
- Irrigation and Water Resources Management
- Structures and Environmental Engineering
- Computer Science and Information Technology
- Food Engineering

Institute

Institute of Biotechnology and Genetic Engineering (IBGE)

- Plant Biotechnology
- Fisheries Biotechnology
- Veterinary and Animal Biotechnology
- Microbial and Industrial Biotechnology

Faculty of Veterinary Medicine and Animal Science

- Anatomy and Histology
- Animal Breeding and Genetics
- Animal Science and Nutrition
- Dairy and Poultry Science
- Gynecology, Obstetrics and Reproductive Health
- Medicine
- Microbiology and Public Health
- Pathobiology
- Physiology and Pharmacology
- Surgery and Radiology

Faculty of Fisheries

- Aquaculture
- Fisheries Biology and Aquatic Environment
- Fisheries Management
- Fisheries Technology
- Genetics and Fish Breeding

Faculty of Forestry and Environment

- Forest Ecology
- Silviculture
- Wood Science and Technology
- Forest Protection
- Forest Policy and Management
- Agroforestry and Environment
- Natural Resource and Conservation
- Remote Sensing and GIS
- Environmental Hazard and Disaster Management

Institute of Climate Change

- Weather and Climate Modeling
- GHG Emission and Environmental Chemistry
- Stress Physiology and Molecular Biology
- Climate Resilience and Sustainability

Institute of Food Safety and Processing

- Bioresource Management and Utilization
- Functional Foods and Nutraceuticals
- Innovative Food Processing and Preservation
- Food Safety and Quality Control

GAU'S CONTRIBUTION IN ATTAINING SDGS OF BANGLADESH :

Gazipur Agricultural University (GAU) has celebrated silver jubilee, its 28th anniversary in this year 2025. It is one of the top public universities in Bangladesh, renowned for its outstanding education, research, and outreach initiatives (community engagement, non-academic services, and management practices). GAU is actively supporting the implementation of Sustainable Development Goals (SDGs) of Bangladesh in the subsequent ways:

EDUCATION:

GAU has updated/modified its course curriculum and started the Objective Based Education (OBE) in order to assist Bangladesh in achieving the SDGs. Six faculties of GAU are providing degrees in agriculture, fishery, veterinary medicine, agricultural economics and forestry & environment. Numerous courses/subjects both at undergraduate and postgraduate levels (MS and PhD) address the importance of sustainability and SDGs and how they might be implemented in practice. GAU equips students with the knowledge, skills, and motivation to understand and address the SDGs' challenges; empowers and mobilizes young people; provides in-depth academic training to implement SDG solutions; and enhances opportunities for capacity building of students and professionals to address SDGs challenges.

Almost all courses/subjects address SDGs issues; however, the following courses/subjects address specific SDGs:

GOAL 1 & 2: END POVERTY & ZERO HUNGER

AEC 642 Food and Nutrition Economics

AFE 512 Farming Systems

AFE 611 Climate Change, Agroforestry and Food Security

AGB 527 Climate Smart Agribusiness and Food Security

AGR 501 Principles of Crop Production

AGR 610 Climate Change and Crop Production

ENS 575 Organic Agriculture & Food Security

ENT 518 Integrated Pest Management

HRT 501 Principles of Vegetable Production

HRT 506 Principles of Fruit Production

RDV 231 Rural Development

RDV 435 Poverty Studies

DPS 201 Poultry Production & Management

DPS 601 Dairy Animal production

GOAL 5: GENDER EQUALITY (ACHIEVE GENDER EQUALITY AND EMPOWER ALL WOMEN AND GIRLS)

AER 540 Gender Issues and Youth Programs in Agriculture

RDV 201 Gender Studies

RDV 265 Anthropology

RDV 265 Anthropology

RDV 361 Social Demography

RDV 212 Anthropology and Forest Tribology

GOAL 6: ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL

AGE 501 Water Resources and Irrigation

AGE 511 Irrigation System Management and Evaluation

AGE 514 Drainage of Agricultural Lands

NRC 380 Biodiversity Conservation

FOE 301 Forest Hydrology and Watershed Management

GOAL 13: CLIMATE ACTION (TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS)

AEC 232 Natural Resource Economics

AEC 550 Resource and Environmental Economics

AFE 521 Environmental Pollution & Protection

AFE 611 Climate Change, Agroforestry and Food Security

AGB 527 Climate Smart Agribusiness and Food Security

AGR 255 Agro-climatology

AGR 610 Climate Change and Crop Production

ENS 541 Global Warming and Climate Change

ENS 545 Environmental Hazards & Disaster Management

EDM 424 Climate Change Adaptation and Mitigation

DM 458 Environmental Impact Assessment

GOAL 14: LIFE BELOW WATER

FMG 101 Freshwater Ecology

FMG 201 Estuarine and Marine Ecology

FMG 131 Estuarine and Marine Ecology

FMG 402 Oceanography and Marine Biology

AQC 101 Principals of Aquaculture

AQC 261 Coastal Aquaculture and Mariculture

GOAL 15: LIFE ON LAND

AFE 237 Introductory Agroforestry and Environment

AFE 301 Fundamentals of Agroforestry and Environmental Science

AFE 507 Social Forestry

AFE 618 Biodiversity Conservation and Management

AFE 603 Homestead Agroforestry and Management

FPM 271 Sustainable Forest Management



RESEARCH:

GAU is actively promoting the SDGs as a research topic within the university. It is providing institutional support for the full spectrum of research approaches required to address the SDGs, such as interdisciplinary and trans-disciplinary study, collaboration with non-governmental organizations, private sectors, and farmers.

In 2024 GAU published a significant number of peer-reviewed scientific papers (total) that corresponds with the SDGs. The following are several scientific articles that pertain to particular SDGs:

RELATED SUSTAINABLE DEVELOPMENT GOALS (SDG): 1

Upoma, N. J., Afrad, M. S. I., Haque, M. E., Sultana, N., Hasan, S., & Choudhury, J. (2024). Impact of Integrated Agricultural Productivity Project on the Smallholder Beneficiaries in Mithapukur Upazila, Rangpur District of Bangladesh. *Asian Journal of Agricultural Extension, Economics & Sociology*, 42(9), 39–49.

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N. E. Zabeen, F. Yeasmin, M. Z. Hoque, H. Rahman, S. Saha, and A. Wadud. (2024) Access to Agricultural Technologies by Rural Women in Nakla Upazila under Sherpur District by *Annals of Bangladesh Agriculture*. 28(1).

Khatun, M.N., Sarker, M.N.I. and Mitra, S. (2024). Adoption of Mobile Banking to Promote Financial Inclusion among Rural Farming Community: Drivers and Satisfaction Level Perspective. *J AGR FOOD RES.*, 18: 1-10.

Rahman, M. S., Haque, M. E., Afrad, M. S. I., Hasan, S. S., Rahman, M. A., & Noman, M. R. A. F. (2024). Usage of the mobile phone on agricultural farm enterprise development by women in rural Bangladesh. *Cogent Social Sciences*, 10(1), 2383393.

Mitra, S., Dipto M.R.A. and Ankon Y.I. (2024). Does credit constraint matter for technical efficiency, technological shifts, and profitability of flower growers? *Cogent Econ. Financ.*, 12(1): 1-15.

Abdullah, M.I., Afrad, M.S.I., Haque, M.E., Kamal, M.Z., Saha, S. & Hasan, S. 2025. Adaptation of Coastal Farmers to Increasing Salinity in Selected Coastal Area of Bangladesh. *Asian Journal of Advances in Agricultural Research*, 25 (2), 71-83.

Ahmed F, Amin MR, Rahman MM, Alam MZ, Afroz M, and Suh SJ. 2024. Toxicity of chemical insecticides and neem oil on cucurbit fruit fly *Bactrocera cucurbitae*. *Agricultural Science Digest*. 44: 495-499.

Ahmed SF, Ahmed JU, Hasan M, Mohi-Ud-Din M. 2023. Assessment of genetic variation among wheat genotypes for drought tolerance utilizing microsatellite markers and morpho-physiological characteristics. *Heliyon* 9, e21629.

Akand, M.M., M.A.T. Masud, M.A. Hoque, M. M. Kamal, M.R. Karim and B. Ahmed. 2024. Data set for estimating combining abilities for yield and quality attributes in summer tomato using line by tester analysis in Bangladesh. *Data in Brief*, 57, 111063.

Akter R, Haque FTI, Roy P, Aslam HB, Muid N, and Amin MR. 2024. Understanding the life cycle and benefits of black soldier fly and its prospect in Bangladesh. *Ecology Journal*. 235-244.

Akter, J., J. Hassan, M. M. Rahman, M.S. Biswas, H.I. Khan, M.M.R. Rajib, M.R. Ahmed, M.N. Khan, M.F.A. Hasan. 2024. Colour, nutritional composition and antioxidant properties of dehydrated carrot (*Daucus carota* var. *sativus*) using solar drying techniques and pretreatments. *Heliyon*, 10(2): e24165.

Akter, M., M. A. Mannan, N. Bari, M. T. Akter and K. F. Jui. 2024. Screening of Sesame (*Sesamum indicum*) Genotypes against Salinity at Germination, Flowering and Harvesting Stages. *AgroLife Scientific Journal*, 13 (2).

Akter, M., S. M. M. Islam, M.N. Islam, M.S. Rahman, A. Islam, M. Khanam, M. Iqbal and M.R. Islam. (2024). Optimizing rice yield and nutrient uptake: Investigating the interaction between nitrogen and potassium in wet season rice cultivation. *Adv. Agric.*, 2024(1), 4984165.

Akter, R., Rajib, M. M. R., Kayesh, E., Rahman, M. M., & Mehedi, M. N. H. (2024). Hormonal efficiency and net return of BARI Tomato-4 enhanced under polytunnels during rainy summer season. *Archives of Agriculture and Environmental Science*, 9(4), 717-721.

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RELATED SUSTAINABLE DEVELOPMENT GOALS (SDG): 16

Ullah, S. M. A., M. A. Rahman, Z. A. Riyadh, K. R. Das, and M. Tani. (2024). A Study on the Impact of Refugee Influx on the Agricultural Service, Systems and Products; The Case of Rohingya Refugees in Teknaf, Bangladesh. *Asian J. of Human Services*, 26: 135-15.

RELATED SUSTAINABLE DEVELOPMENT GOALS (SDG): 17

Biswas, J. C., Mamun, M. A. A., Rahman, M. M., & Haque, M. M. (2024). Technological Intervention for Climate Change Adaptation and Mitigation. In: Rahman, M.M., Biswas, J.C., Meena, R.S. (eds) *Climate Change and Soil-Water-Plant Nexus*. Springer, Singapore.

Hassan, J., Gomasta, J., Ali, L., Nizer Sultana, S., Zubayer, Md., Saiful Islam, Md., ... Kayesh, E. (2024). Transforming Weeds to Edible Vegetables: An Alternative Sustainable and Ecofriendly Approach to Weed Management. IntechOpen.

Kong, D., Zhang, J., Zhang, S., Yu, X., & Proadhan, F. A. (2024). MHIAFormer: Multi-Head Interacted and Adaptive Integrated Transformer with Spatial-Spectral Attention for Hyperspectral Image Classification. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*.

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OUTREACH INITIATIVES

Besides Academic and Research, Outreach Programs of GAU also highly reputed. Besides Academic and Research, Outreach Programs of GAU also highly reputed as a knowledge sharing wings. GAU's outreach center plays a significant role in addressing poverty and food security issues in the local community by providing training and disseminating knowledge and technologies to farmers. The GAU outreach centre is actively engaged in organizing various training activities to communicate and transmit the knowledge and technologies developed by thuniversity to local farmers and communities.

Activities:

Farmers' Training: The outreach centre conducts training programs for farmers. These programs likely include valuable information and practices related to agriculture and farming.

Technology Dissemination Fair: They organize events or fairs to showcase and disseminate the technologies and varieties developed by GAU to the local community as well as national level

Varieties and Technologies Dissemination: The center plays a role in spreading the GAU-released varieties and technologies in the local areas.

Students' Training and Seminar: It also provide training to the students of different levels, possibly in areas related to agriculture and sustainable development.

Training Focus Areas:

Transfer of GAU-developed Technologies: The training includes educating farmers on how to effectively use the technologies and innovations developed by GAU.

Crop Production: To ensure the continuous food and vegetable productions for the huge populations, the Outreach centre continuously organized different training for farmers.

Livestock and Poultry: Training covers aspects related to livestock and poultry farming, which are essential for rural livelihoods.

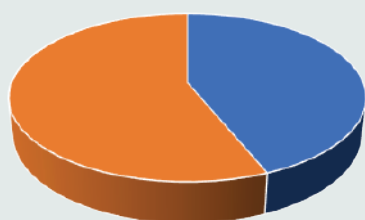
Reproduction and Disease Management: Farmers are likely trained in livestock and poultry reproduction, as well as disease management to improve the health of their animals.

Fisheries Management: The outreach centre provides training for farmers on effective fisheries management, which can be crucial for economic stability in rural areas.

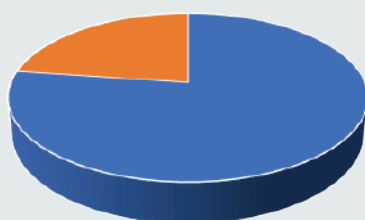
The outreach center's training programs mostly align with Sustainable Development Goals (SDG) 1 and 2, which are "No Poverty" (SDG 1) and "Zero Hunger" (SDG 2). Additionally, the GAU outreach centre provided various trainings for government officials, scientists, and the corporate sector, including sustainable fertilizer management training, training on seed health, training on apiculture for livelihood and biodiversity linked to SDG 1, 2,5,6,13,14 and 15. In harmony with the SDG 4, outreach centre conducted a training on 'Career Planning' for undergraduate and post-graduate students of GAU in 2022. It also hosted a seminar titled 'Role of GAU in Achieving SDGs in Bangladesh' with the Honorable Vice-Chancellor as the chief guest and students as the participants in 2024.

Many faculties from GAU actively participate in national and regional seminars and workshops. These events focus on improving food security and reducing poverty, which aligns with the broader goals of the outreach center. Finally, GAU's outreach center acting a noteworthy role in addressing poverty and food security issues in the local community by providing training and disseminating knowledge and technologies to farmers. This contributes to achieving Sustainable Development Goals related to poverty reduction and food security.

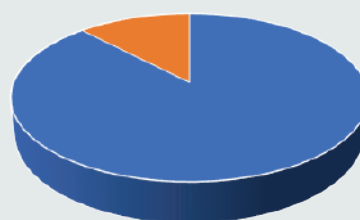
EXISTING STUDENTS, FACULTY MEMBERS AND NON-ACADEMIC STAFFS



Students
Male - 788
Female - 1084



Faculty Members
Male - 164
Female - 67



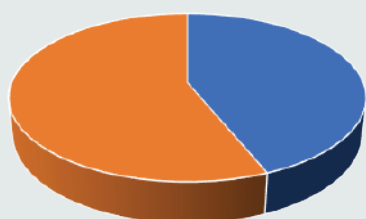
Non-Academic Staffs
Male - 349
Female - 56

STUDENT GRADUATION REPORT BASED ON GENDER

FACULTY	No of Students		
	Male	Female	Total
PhD (GSD)	298 (87%)	47 (13%)	345
MS (GSD)	1519 (61%)	988 (39%)	2507
Total MS & PhD	1817 (64%)	1015 (36%)	2852
BS (Agriculture)	557 (44%)	729 (56%)	1286
BS (Fisheries)	216 (52%)	222 (48%)	438
DVM	186 (60%)	124(40%)	310
BS (Agril. Economics)	176 (40)	266 (60%)	442
Forestry and	0	0	0
Total BS and DVM	1135 (46%)	1341(54%)	2476
Grand Total	2952 (57%)	2356 (43%)	5328



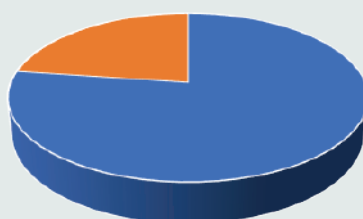
EXISTING STUDENTS, FACULTY MEMBERS AND NON-ACADEMIC STAFFS



Students

Male - 788

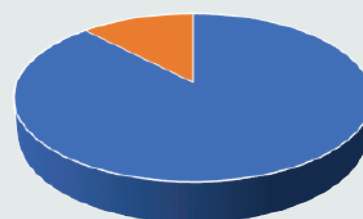
Female - 1084



Faculty Members

Male - 164

Female - 67



Non-Academic Staffs

Male - 349

Female - 56

STUDENT GRADUATION REPORT BASED ON GENDER

FACULTY	No of Students		
	Male	Female	Total
PhD (GSD)	301 (87%)	47 (13%)	348
MS (GSD)	1643 (60%)	1081 (40%)	2724
Total MS & PhD	1944 (64%)	1128 (36%)	3072
BS (Agriculture)	605 (44%)	797 (56%)	1402
BS (Fisheries)	238 (52%)	250 (48%)	488
DVM	226(60%)	150(40%)	376
BS (Agril. Economics)	199 (40%)	304 (60%)	503
Forestry and	0	0	0
Total BS and DVM	1268 (46%)	1501(54%)	2769
PGDRD	80 (71%)	33 (29%)	113
Grand Total	3292 (57%)	2658 (43%)	5954



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