



University of  
Reading

GRADUATE INSTITUTE OF INTERNATIONAL  
DEVELOPMENT, AGRICULTURE AND ECONOMICS

**EMPOWERING  
CHANGE**

# WELCOME TO GIIDAE



## UNDERSTANDING THE GLOBAL CHALLENGES OF THE 21ST CENTURY

We live in an interconnected world where **food, human rights, environmental change, economic development, and social development are increasingly complicated.**

As a global community, we see the immense challenges that we face to create equity, quality of life and environmental sustainability for all global citizens.

In each country and region of the world, we understand that these issues pose particular challenges that must be met to fulfil a vision for a strong future. Within communities we see how this affects households and individuals in a myriad of complex ways. These issues are challenging, and the debates about how to address them abound.

However, there are also global responses to these challenges. In 2015, countries globally adopted the 2030 Agenda for Sustainable Development, with 17 Sustainable Development Goals (SDGs) to guide development over the coming decades.

## EMPOWERING YOU TO FIND THE SOLUTIONS

There are innovations in the use of research, technology and sharing lessons from decades of development practice that give us greater insight into how to move forward towards an equitable, sustainable future.

At GIIDAE (the Graduate Institute for International Development, Agriculture and Economics), we strive to equip you with the knowledge and tools that will enable you to be part of the solution to these global challenges.

GIIDAE is an established centre of excellence in postgraduate teaching that offers programmes grouped thematically into international development, applied economics and marketing, and agriculturally oriented programmes.

On joining us you will benefit from internationally recognised teaching and research expertise within the School of Agriculture, Policy and Development, where GIIDAE is located. The institute covers natural and social sciences related to agriculture and the rural environment, the food chain, applied economics and marketing, climate change and international development.

Our programmes are designed around this interdisciplinary environment, which allows us to reflect the real-life complexity of challenges that global communities and businesses face when aspiring to a sustainable future.

**Dr Sarah Cardey**

Director, Graduate Institute of International Development, Agriculture and Economics

## INTERNATIONAL COMMUNITY

We are home to a large international learning community, attracting over 90 MSc students each year, typically coming from more than 40 countries throughout Africa, South and East Asia, Latin America and the Caribbean, Europe and the Middle East.

There are diverse opportunities for research, networking and personal development within each degree programme. This is complemented by access to high quality study resources, careers services and employability support. We strive to create an engaging educational environment that is stimulating, thought-provoking and experimental. The course materials and learning environment combine to create an educational experience that aims to empower you to contribute to a more equitable, sustainable future.

**“Studying Applied International Development at GIIDAE has given me ample opportunity to gain the expertise that will enable me to explore long term solutions to some of the biggest challenges in global development. GIIDAE offers a collaborative learning environment, with students from across the globe, as well as offering support from lecturers that have helped shape my career goals.”**

**Dumebi Okwuosah**

MSc Applied International Development, 2018.

## DO YOU WANT TO MAKE A DIFFERENCE BY TACKLING SOME OF THE WORLD'S BIGGEST CHALLENGES?

Are you interested in international development, agricultural and rural development, food security, development communication, environmental change, agricultural economics and food marketing, or consumer behaviour? If so, we can help you gain the knowledge that you will need to affect change.

## WHAT ARE THE BENEFITS OF STUDYING AT GIIDAE?

Our programmes are designed to equip students with the relevant analytical and practice-based skills that will help them to combat global challenges, such as the pressure placed on finite natural resources from human and environmental change, the complex nature of poverty, influencing consumer behaviour, and the challenges of sustainable economic development and finance.

## DIVERSE COMMUNITY OF LEARNERS

Students include a range of learners, from young graduates to experienced mid-career professionals, helping to create a unique and globalized learning experience. Students come with a range of educational goals. They may be:

- New to the subject area and looking to specialise
- Mid career professionals keen to enhance their career through a qualification
- Switching careers or disciplines, and would like a postgraduate qualification to support that change.

We value the diversity of our students, and encourage peer-to-peer learning within the GIIDAE community.

# INTERNATIONAL LEARNING COMMUNITY

## EMPLOYABILITY

In addition to research and networking opportunities, students are supported by the University's Student Careers, Placement and Experience Centre, which can enhance and promote your employability, careers and educational prospects. GIIDAE students benefit from bespoke Careers sessions offered in the School.

Students can also participate in the THRIVE mentoring programme, where you are paired with a professional mentor in your chosen field, and throughout your studies.

In addition, students have the opportunity to engage with a wide variety of visiting speakers and to go on field trips, giving them the opportunity to see their learning in practice at research institutes, organisations and events.

**“Straight after graduation, I was hired by one of the biggest consulting companies in the world. I started an initiative to support female leadership at work, and successfully helped a client to implement an anti-bribery and anti-corruption system. Studying at Reading really broadened my horizons.”**

**Tamara Czetto**

Graduate 2015; Consultant in Risk consulting at Pricewaterhouse Coopers (PwC)

View Tamara's profile at:

[www.reading.ac.uk/giidae-alumni](http://www.reading.ac.uk/giidae-alumni)



## GIIDAE SCHOLARSHIPS

Keen to make our programmes accessible to all, GIIDAE has a diverse range of scholarships available. These are offered by the School, the University and other organisations associated with us.

We offer a significant amount of funding to assist students in their studies as we recognise the importance and difference that a scholarship can make to an individual's study options. Some scholarships are country specific, while others are subject related.

Visit our website for the latest information at: [www.reading.ac.uk/giidae-scholarships](http://www.reading.ac.uk/giidae-scholarships)

**“I chose to study at the University of Reading because of its excellent reputation in research and global reach. My GIIDAE scholarship has alleviated some of the financial pressures of studying. It allows me to focus more on my Masters which is introducing me to a diverse group of people and knowledge. It is an experience that I will cherish forever”**

**Grace Labeodan**

MSc Applied International Development student, 2018

## DIVERSE

“Being a Development Practitioner I was overwhelmed with the discovery of a wide range of disciplines, offering skills one needs to contribute to addressing the global challenge of sustainable development. Through studying with GIIDAE I have amassed relevant expertise to face the global development challenges.”

Phillip Harawa,  
MSc Applied International Development student

## TAILORED BY YOU

“I love the fact that I am able to choose my modules from a wide range of available options to meet my goal, based on my career interests and aspirations.”

Cecilia Agrinya  
MSc in Communications for Development student

## SUPPORTIVE

“I have had limitless opportunities and support (from both academic staff and fellow students) to explore my academic prowess. Being at GIIDAE has also profoundly improved my social interactions and appreciation of other global cultures.”

Phillip Harawa,  
MSc Applied International Development student

## YOUR CAREER STARTS HERE

“Nothing beats the numerous networking opportunities I have had to learn from and to have audience with highly experienced development professionals from different fields and agencies.”

Cecilia Agrinya  
MSc in Communication for Development student

## UNLOCK YOUR POTENTIAL

“I am glad I made the decision to study at Reading because my academic and personal experience has been worth it. I recommend that you give it a go and thank me later!”

Cecilia Agrinya  
MSc in Communications for Development student

## HIGHLY RATED

“GIIDAE is simply in the league of the best! Studying a Master’s Degree here has been an indelible turning point of my professional career. From the high calibre of academic staff, world-class learning facilities, enormous career support services, lively students’ social interactions, I simply could not ask for anything more!”

Phillip Harawa,  
MSc Applied International Development student



# REASONS FOR STUDYING AT GIIDAE

# PROGRAMMES



## PROGRAMMES

Designed to give you the skills and insight needed to advance your career, our programmes put theory into practice, enabling you to work in a variety of organisations (charitable/global organisations, government, non-government, research bodies) where impact matters.

Masters study with GIIDAE is made up of modules that are taken over the Autumn and Spring terms, followed by a dissertation completed in the Summer term and vacation period.

In most of our degrees, the dissertation is a 60-credit research project of between 10,000 – 12,000 words that is written on a theme of interest to the student, in accordance with the aims of their degree programme. Students may

also have the opportunity to do fieldwork or a relevant placement in the UK, EU or overseas.

The MRes in Agriculture, Ecology and Environment has a slightly different structure, with fewer taught modules and a 120-credit dissertation research project which students begin in the Spring term. For further information, please see page 26.

All of our degrees require international students to study full-time, while UK and EU students may opt to study part-time. For further information, please contact the Programme Director.

Our two online qualifications are structured differently, details of which are outlined in the programme descriptions.

**APPLIED ECONOMICS AND MARKETING:**

[www.reading.ac.uk/giidae-economics](http://www.reading.ac.uk/giidae-economics)

**AGRICULTURE:**

[www.reading.ac.uk/giidae-agriculture](http://www.reading.ac.uk/giidae-agriculture)

**INTERNATIONAL DEVELOPMENT:**

[www.reading.ac.uk/giidae-IntDev](http://www.reading.ac.uk/giidae-IntDev)

“ Learning in an interdisciplinary setting, we give students the opportunity to reflect on the real life complexity of challenges that global communities and businesses face when aspiring to a sustainable future. ”

Dr Sarah Cardey  
Director of GIIDAE

# APPLIED ECONOMICS & MARKETING

MSc AGRICULTURAL ECONOMICS

MSc DEVELOPMENT FINANCE

MSc FOOD ECONOMICS & MARKETING

MRes AGRICULTURAL & FOOD ECONOMICS

MSc CONSUMER BEHAVIOUR

# MSc AGRICULTURAL ECONOMICS

PROGRAMME DIRECTOR: **KELVIN BALCOMBE** [k.g.balcombe@reading.ac.uk](mailto:k.g.balcombe@reading.ac.uk)

With an ever-increasing world population and growing pressure on the world's finite resources, the analytical skills of agricultural economists are as relevant as ever.

This degree programme is designed to provide you with a rigorous, stimulating and enjoyable training in agricultural economics. This programme will enable you to acquire the necessary skills to work as an agricultural economist in industry, government or non-governmental organisations and will also provide the essential training required to undertake higher study in the area of Agricultural Economics.



Many of our graduates become economists in international organisations or agribusiness, policy analysts in a non-governmental organisations, while others go on to successfully complete PhDs. Applicants to the programme require a basic knowledge of microeconomics and quantitative methods, but strong applicants with no prior training in economics may be admitted provided they attend a pre-session programme in economics in September. We welcome students that bring a breadth of skills and experience gained outside of academia.

Pathway: Agricultural Economics students have the option to specialise in a development pathway that will provide them with a specialisation in agricultural development economics.

## CORE CONTENT (80 CREDITS):

ECONOMETRICS

CONSUMERS, PRODUCERS, MARKETS AND TRADE

RESOURCE AND ENVIRONMENTAL ECONOMICS

RESEARCH AND STUDY SKILLS FOR INDEPENDENT LEARNING

PATHWAY: AGRICULTURAL DEVELOPMENT ECONOMICS

Students wanting to specialise in development must select 30 credits out of the 50 credits available from a list of modules including: Appraisal of Agricultural & Rural Development Projects, Microeconomics for Developing Countries, Macroeconomics for Developing Countries, Food Security and Development.

**“Reading gave me the foundations to pursue a varied and exciting career, working with governments and agencies in more than 50 different countries. Currently I am privileged to be working in Algeria, the largest country in Africa.”**

**Angela Cook**  
Educational Consultant  
MSc Agricultural Economics Alumni  
View Angela's profile at:  
[www.reading.ac.uk/giidae-alumni](http://www.reading.ac.uk/giidae-alumni)

# MSc DEVELOPMENT FINANCE

PROGRAMME DIRECTOR: **C.S.SRINIVASAN** [c.s.srinivasan@reading.ac.uk](mailto:c.s.srinivasan@reading.ac.uk)

The programme explores key issues and challenges in the provision of finance for economic development in developing countries and covers analysis of financial markets in emerging economies, financial sector reform and policies and institutions to promote financial inclusion.

The core modules cover key issues within the field of development finance and microenterprise finance, against the background of major perspectives on development and macroeconomic policy.



The optional modules provide the opportunity to further investigate specialist areas within the financial services sector and/or to explore a wide range of other topics relating to development. Applicants for this programme require a first degree in a subject which includes a significant element of economics.

## CORE CONTENT (70 CREDITS):

DEVELOPMENT FINANCE

MACROECONOMICS FOR DEVELOPING COUNTRIES

MICROFINANCE

THEORIES AND PRACTICES OF DEVELOPMENT

APPRAISAL OF AGRICULTURAL & RURAL DEVELOPMENT PROJECTS

RESEARCH AND STUDY SKILLS FOR INDEPENDENT LEARNING

Students select a further 50 credits from taught modules, with guidance from their Programme Director. A selection of taught modules can be found on page 26.

“ Studying for an MSc at Reading was a life changing decision. I owe a lot to GIIDAE as it got me to where I am today - working as a teaching associate and pursuing PhD studies at Queen Mary University London.”

**Ranjita Neogi**

Teaching Associate and PhD student  
MSc Development finance Alumni

View Ranjita's profile at:  
[www.reading.ac.uk/giidae-alumni](http://www.reading.ac.uk/giidae-alumni)

# MSc FOOD ECONOMICS AND MARKETING

PROGRAMME DIRECTOR: **GIUSEPPE NOCELLA** [g.nocella@reading.ac.uk](mailto:g.nocella@reading.ac.uk)

Focusing on how economic and marketing forces influence decisions of producers, processors, retailers, consumers and policy makers along food supply chains at a domestic and international level, the MSc in Food Economics and Marketing provides training in applied economics, policy, marketing and research methods in the context of food.

This includes consumers' food choice and behavioural changes, marketing decisions in food retailing and manufacturing, and policy issues as they relate to international trade, competition, diets and health, food safety, sustainability and quality of food products.



Past students now work for world organizations, such as the EU and FAO, NGOs, international food companies, consulting companies, and many more. Applicants to the programme require an intermediate knowledge of microeconomics, and quantitative methods, but strong applicants with little or no prior training in economics may be admitted provided they attend a pre-session one month programme in economics in September.

## CORE CONTENT (80 CREDITS):

ADVERTISING AND BRANDING

ADVANCED MARKETING

CONSUMER BEHAVIOUR AND FOOD MARKETING

FOOD POLICY

MARKETING RESEARCH METHODS

NUDGING AND BEHAVIOUR CHANGE

RESEARCH AND STUDY SKILLS FOR INDEPENDENT LEARNING

Students select a further 40 credits from taught modules, with guidance from their Programme Director. A selection of taught modules can be found on page 26.

“ Thanks to the research skills that I learnt during my masters I am now responsible for conducting quantitative and financial analysis for a strategy consultancy in Milan.”

**Carmine Mereu**

Consultant, MSc Food Economics and Marketing Alumni

View Carmine's profile at:  
[www.reading.ac.uk/giidae-alumni](http://www.reading.ac.uk/giidae-alumni)

# MRes AGRICULTURAL AND FOOD ECONOMICS

PROGRAMME DIRECTOR: **C.S.SRINIVASAN** c.s.srinivasan@reading.ac.uk

This programme prepares students for doctoral studies in agricultural and food economics and marketing. It provides rigorous training in research methods to prepare students for research careers in academia or in non-academic organisations.

The programme combines training in the skills of applied economics and marketing – including quantitative and qualitative research techniques – with an opportunity to apply them to a diverse range of contemporary farm, food and rural issues in both developed and developing country contexts.

## CORE CONTENT (70 CREDITS):

CONSUMERS, PRODUCERS, MARKETS AND TRADE

ECONOMETRICS

MARKETING RESEARCH METHODS

QUALITATIVE RESEARCH METHODS

RESEARCH AND STUDY SKILLS FOR INDEPENDENT LEARNING

Students select a further 40 credits from taught modules, with guidance from their Programme Director. A selection of taught modules can be found on page 26.

“My Masters degree developed the analytical skills that I needed and built the necessary experience required of consumer and producer theories, food economics and marketing perfectly in preparation for my PhD studies and career in academia.”

Razan Majar

Research MRes Agricultural and Food Economics Alumni

View Razan's profile at:

[www.reading.ac.uk/giidae-alumni](http://www.reading.ac.uk/giidae-alumni)



Applicants to the programme require an intermediate knowledge of microeconomics and quantitative methods, but strong applicants with little or no prior training in economics may be admitted provided they attend a pre-session one month programme in economics in September.

# MSc CONSUMER BEHAVIOUR

PROGRAMME DIRECTOR: **ED COLLINS** e.collins@reading.ac.uk

This programme will develop graduates who are at the forefront of consumer centred business philosophy and are ready to lead in an ever competitive and complex world. Whether you work for a global organisation, SME or non-profit organisation we aim to provide an experience that will encourage new and innovative understanding of the consumer led markets that all organisations work in.

Designed to give you the skills, knowledge and understanding that you need to move your organisation forward, the programme embraces the latest consumer behaviour thinking, encourages problem solving through internal and external client led projects and facilitates active learning throughout your study.

## CORE CONTENT (90 CREDITS):

CONSUMER BEHAVIOUR: CONCEPTS AND THEORIES

CONTEMPORARY ISSUES IN CONSUMER BEHAVIOUR MARKETING

CONSUMER ATTITUDES

NUDGING AND BEHAVIOUR CHANGE

RESEARCH METHODS

INDIVIDUAL CAPSTONE PROJECT

RESEARCH AND STUDY SKILLS FOR INDEPENDENT LEARNING

Students select a further 30 credits from taught modules, with guidance from their Programme Director. A selection of taught modules can be found on page 26.







## AGRICULTURE PROGRAMMES

MSc BY RESEARCH IN AGRICULTURE, ECOLOGY AND ENVIRONMENT

MSc BY RESEARCH IN ANIMAL SCIENCE

# MSc by RESEARCH IN AGRICULTURE, ECOLOGY AND ENVIRONMENT

PROGRAMME DIRECTOR: **ROBBIE GIRLING** [r.girling@reading.ac.uk](mailto:r.girling@reading.ac.uk)

This programme prepares students for a research career in the agricultural and Agri-Environment sectors or for subsequent doctoral studies.

The course is taught by researchers from the Centre for Agri-Environmental Research, a leading centre for agroecology research and highly respected by employers in the sector. It provides a multi-disciplinary appreciation of the underlying environmental, social and economic issues surrounding contemporary agricultural systems and gives a rigorous training in commonly used research methods and statistical analyses.

The programme will develop your critical appraisal skills of research literature at the interface between agriculture, ecology and environmental science as well as giving you the skills to plan, manage and conduct an in-depth field and / or lab based independent research project.



“My Masters degree has improved my skills as an independent researcher through practical sessions, and provided me with a realistic representation of what would be expected of a graduate in the workplace. I have now received funding to continue my studies at PhD level.”

Sarah Shepperd

PhD student, MSc by Research in Agriculture, Ecology and Environment Alumni

### CORE CONTENT (160 CREDITS):

RESEARCH METHODS IN AGRICULTURE, ECOLOGY AND ENVIRONMENT

ISSUES IN AGRICULTURAL SYSTEMS

RESEARCH PROJECT IN AGRICULTURE, ECOLOGY AND ENVIRONMENT

Students take two compulsory taught modules totalling 40 credits. All compulsory taught modules will take place in the Autumn term with the research project commencing in January.

Students select a further 20 credits from taught modules, with guidance from their Programme Director. A selection of taught modules can be found on page 26. In addition, further options are available from the many post-graduate level modules taught across the University.

The majority of the programme consists of a 120-credit in-depth research project, which is conducted during the Spring and Summer terms, and summer vacation on a theme of interest to the student, in accordance with the aims of the degree programme.

# MSc by RESEARCH ANIMAL SCIENCE

PROGRAMME DIRECTOR: **CAROLINE RYMER** [c.rymer@reading.ac.uk](mailto:c.rymer@reading.ac.uk)

This flexible online programme will develop graduates working to secure safe and sustainable livestock production systems that respect and enhance the welfare of livestock.

Designed to help you to develop as a confident and independent researcher, ready to embark on a research career, or in preparation for your doctoral studies, you will acquire the skills, knowledge and understanding of key topics associated with animal nutrition, health, behaviour and sustainable livestock production.



We encourage a new and innovative understanding of the challenges and opportunities that face the global livestock industry, so whether you are working directly in the sector, in related supply industries (e.g. feed and pharmaceutical), advisory or extension services, or in a research institution, this programme will offer a new perspective.

Taught elements are delivered online, enabling you to remain at your workplace during your studies. The research element may then be conducted either at your workplace or at Reading. You can choose to complete the course in just 18 months, or take up to 63 months, dependant on your work demands.

## CORE CONTENT (180 CREDITS):

LIVESTOCK NUTRITION AND FEEDING

CONTEMPORARY ISSUES IN ANIMAL SCIENCE

SUSTAINABLE LIVESTOCK PRODUCTION SYSTEMS

RESEARCH METHODS AND PROJECT MANAGEMENT

ANIMAL SCIENCE RESEARCH PROJECT PLAN

ANIMAL SCIENCE RESEARCH PROJECT



## INTERNATIONAL DEVELOPMENT

MSc APPLIED INTERNATIONAL DEVELOPMENT

MSc AGRICULTURE AND DEVELOPMENT

MSc CLIMATE CHANGE AND DEVELOPMENT

MSc COMMUNICATION FOR DEVELOPMENT

MSc ENVIRONMENT AND DEVELOPMENT

MSc FOOD SECURITY AND DEVELOPMENT

# MSc APPLIED INTERNATIONAL DEVELOPMENT

PROGRAMME DIRECTORS: **HENNY OSBAHR** h.osbahr@reading.ac.uk  
**SARAH CARDEY** s.p.cardey@reading.ac.uk

Working within the International Development sector requires an interdisciplinary understanding of the complex factors that influence effective planned interventions for development outcomes.

The programme gives you an awareness of these theoretical frameworks for the analysis of social change brought about by planned development interventions at international to community level, and links this with policy and practice.

You will strengthen professional competence in design, implementation and critical evaluation of applied development through specialized pathways and be able to complete an optional placement. All of which will improve employability for governmental or non-governmental development agencies, as well as for research, consultancy and the private sector.



“My time at Reading inspired me to pursue a career in International Development in which I am now working for the Swedish International Development Cooperation Agency managing their portfolio on environment, climate change, resilience and renewable energy.”

**Gareth Horsfield**

National Programme Officer at Swedish International Development Cooperation Agency (SIDA), MSc Applied International Development Alumni

## CORE CONTENT (60 CREDITS):

THEORIES AND PRACTICES OF DEVELOPMENT

PARTICIPATORY INTERVENTIONS IN DEVELOPMENT

GENDER AND DEVELOPMENT

RESEARCH AND STUDY SKILLS FOR INDEPENDENT LEARNING

## PATHWAYS:

AGRICULTURE AND SOCIAL DEVELOPMENT

SOCIAL POLICY AND SUSTAINABLE LIVELIHOODS

DEVELOPMENT POLICY AND PLANNING

SOCIAL AND ECONOMIC DEVELOPMENT

LAW AND DEVELOPMENT

Please view the module list on page 26 for suggested optional modules. Details of the modules in each of these pathways can be found in the programme specification.

For further information visit:  
[www.reading.ac.uk/giidae-IntDev](http://www.reading.ac.uk/giidae-IntDev)

# MSc AGRICULTURE AND DEVELOPMENT

PROGRAMME DIRECTOR: **ANDREW AINSLIE** a.m.ainslie@reading.ac.uk

This programme examines how agriculture (including horticulture) may address the global challenges and opportunities of agricultural intensification and environmental sustainability particularly in developing countries. A flexible programme is offered, that includes a Horticulture pathway.

Emphasising a farming systems approach, the programme explores: the role and contributions of agriculture and horticulture to human development, food and nutritional security, livelihoods and ecosystem services; the biophysical, economic and social environments in which agriculture is practised; advances in agricultural technology, research and practice in response to challenges such as poverty, climate change and environmental sustainability; and how to enhance the relevance, quality and impact of agricultural research and farmer-led innovation processes.



Students will therefore be equipped to help implement the Sustainable Development Goals, especially that of ending hunger and promoting sustainable agriculture. Graduates are well suited to working in development, extension or research, within private and public sectors and in national and international organisations.

## CORE CONTENT (70 CREDITS):

RETHINKING AGRICULTURAL DEVELOPMENT (INCLUDING HORTICULTURE)

AGRICULTURE IN THE TROPICS

EXPERIMENTAL AGRICULTURE/ HORTICULTURE

THEORIES AND PRACTICES OF DEVELOPMENT

RESEARCH AND STUDY SKILLS FOR INDEPENDENT LEARNING

Students select a further 50 credits from a wide range of taught modules, with guidance from their Programme Director. A selection of taught modules can be found on page 26.

“My degree enabled me to expand my knowledge on topics that have paved my professional career. The multicultural study environment developed my interpersonal skills greatly which are now key to my present job. I am now supporting the supervision of a global project portfolio within a French NGO.”

**Larissa Setaro**

Operations Assistant at Positive Planet International, MSc Agriculture and Development Alumni

View Larissa's profile at:  
[www.reading.ac.uk/giidae-alumni](http://www.reading.ac.uk/giidae-alumni)

# MSc CLIMATE CHANGE AND DEVELOPMENT

PROGRAMME DIRECTOR: **NICK BARDSLEY** n.o.bardsley@reading.ac.uk

Climate change has far-reaching economic and social implications. This programme examines the social scientific drivers, and consequences, of climate change and associated policy debates.

It focuses on the interface between climate change and development, with particular attention paid to the perspective of ecological economics. Students who follow this programme are expected to have employment opportunities in a wide variety of environmental and developmental settings.

These include aid agencies, NGOs, and relevant government departments, especially those focused on energy policy and climate change issues.



## CORE CONTENT (70 CREDITS):

ENERGY, CLIMATE CHANGE AND DEVELOPMENT

THEORIES AND PRACTICES OF DEVELOPMENT

GLOBAL ENVIRONMENTAL CHANGE AND DEVELOPMENT

RESEARCH AND STUDY SKILLS FOR INDEPENDENT LEARNING

Students select a further 50 credits from taught modules, with guidance from their Programme Director. A selection of taught modules can be found on page 26.

“ Studying at Reading enabled me to get where I am today. The School’s cultural diversity was really beneficial as I got to see things from different people’s perspectives from all over the world. ”

Josh Allen

Project Officer, at Sustrans, a sustainable transport charity, MSc Climate Change and Development Alumni

# MSc COMMUNICATION FOR DEVELOPMENT

PROGRAMME DIRECTOR: **SARAH CARDEY** s.p.cardey@reading.ac.uk

Rapid changes in the global communication landscape – changing technologies, communication processes, and communication opportunities – offer new ways to understand and improve how we address livelihoods, poverty reduction, and community development.

Understanding how communication can support individual and social change can lead to more effective and dynamic development policy and programmes. The practical application of communication in development is diverse: it includes areas such as extension and advisory services, communication and climate change risk reduction, communicating about health challenges, and communication to reduce food insecurity. Given the complex set of global challenges, the role of communication is important in facilitating, driving, and enabling change.



The programme offers a critical analysis of the theory and practice of development communication. It is particularly relevant for professionals who have, or are seeking, extension responsibilities, media professionals, individuals working with communities on livelihoods and agricultural development projects, people working in the community health sector, people with broad experience in development looking for a focus on communication, and those intending to go on to a research degree in communication for development.

## CORE CONTENT (80 CREDITS):

THEORIES AND PRACTICES OF DEVELOPMENT

RESEARCH AND STUDY SKILLS FOR INDEPENDENT LEARNING

PARTICIPATORY INTERVENTIONS IN DEVELOPMENT

CONCEPTS AND PRACTICES OF COMMUNICATION

RESEARCH AND STUDY SKILLS FOR INDEPENDENT STUDY

Students select a further 40 credits from taught modules, with guidance from their Programme Director. A selection of taught modules can be found on page 26.

“ Working as a research coordinator on a project that will help the indigenous people in Aurora to establish community-based climate change adaptation strategies, the transferrable knowledge and skills that I learnt will be invaluable. ”

Anne Claudine Dayo

Executive Assistant and Research Associate, Aurora State College of Technology, Philippines, MSc Communications for Development Alumni

View Anne’s profile at:

[www.reading.ac.uk/giidae-alumni](http://www.reading.ac.uk/giidae-alumni)

# MSc ENVIRONMENT AND DEVELOPMENT

PROGRAMME DIRECTOR: **ANDREW AINSLIE** [a.m.ainslie@reading.ac.uk](mailto:a.m.ainslie@reading.ac.uk)

Globally, we face serious and rapidly evolving environmental challenges on a number of fronts and at many levels. Whilst addressing these challenges, we also need to make real progress towards an economically and socio-politically just world.

This programme provides perspectives of the inter-relationships between environment and development at the global, regional, national and local levels.

Students learn to critically examine how these interdisciplinary challenges are constructed, interpreted and addressed by academics, international agencies, government-level policymakers, the private sector, non-government development actors and of course, civil society and 'ordinary' people around the world.

Students are equipped with the requisite analytical and conceptual skills to understand the drivers of change, the connections, and the trade-offs between the well-being of people and the state of the environment.



The programme is designed for students interested in pursuing careers in development planning and environmental policy in international agencies, employment in national and local government sectors, in non-governmental organisations, academia, policy think-tanks and in journalism.

# MSc FOOD SECURITY AND DEVELOPMENT

PROGRAMME DIRECTOR: **ALEX ARNALL** [a.h.arnall@reading.ac.uk](mailto:a.h.arnall@reading.ac.uk)

This programme prepares students for a career in the international food security and development sectors.

It provides a multi-disciplinary understanding of the structure and operation of food systems in developing countries. It explores how these systems interact with human development policies and interventions at international, national and local levels.

The programme benefits from strong association with the cross university Interdisciplinary Food Systems Teaching and Learning (IFSTAL) programme. IFSTAL reflects Reading's reputation as a lead institute in the area of understanding global food insecurity, malnutrition and poverty, particularly in developing countries.



## CORE CONTENT (60 CREDITS):

THEORIES AND PRACTICES OF DEVELOPMENT

RESEARCH AND STUDY SKILLS FOR INDEPENDENT LEARNING

FOOD SECURITY AND DEVELOPMENT

AGRICULTURE IN THE TROPICS

GLOBAL ISSUES IN NUTRITION AND HEALTH

Students select a further 60 credits from taught modules, with guidance from their Programme Director. A selection of taught modules can be found on page 26.

**“Studying for a masters at Reading defiantly gave me the skills that I needed to operate in the real world.”**

**Christopher Kasonde**

Food & Beverage Team Advisor, Ministry for Primary Industries, New Zealand  
MSc Food Security and Development Alumni

View Christopher's profile at:

[www.reading.ac.uk/giidae-alumni](http://www.reading.ac.uk/giidae-alumni)

## CORE CONTENT (80 CREDITS):

GLOBAL ENVIRONMENTAL CHANGE, JUSTICE AND DEVELOPMENT

THEORIES AND PRACTICES OF DEVELOPMENT

ECOSYSTEM SERVICES

ENERGY, CLIMATE CHANGE AND DEVELOPMENT

RESEARCH AND STUDY SKILLS FOR INDEPENDENT LEARNING

Students select a further 40 credits from taught modules, with guidance from their Programme Director. A selection of taught modules can be found on page 26.

**“I would describe my experience at Reading as 'life changing'. Studying there has definitely got me where I want to be.”**

**Tarek Monem**

Knowledge Management and Reporting Specialist, UN-Habitat Regional Office, Arab States MSc Environment and Development Alumni

View Tarek's profile at:

[www.reading.ac.uk/giidae-alumni](http://www.reading.ac.uk/giidae-alumni)

# OPTIONAL MODULES

Below is a thematically grouped list of a selection of modules which are available to students in the Graduate Institute.

Students can choose from a wide range of modules drawn from Schools across the University (subject to timetabling constraints) to support their learning needs and career aspirations.

[www.reading.ac.uk/apd-modules](http://www.reading.ac.uk/apd-modules)

## AGRICULTURE

AGRICULTURE IN THE TROPICS

AGRICULTURAL PROJECT PLANNING AND MANAGEMENT IN DEVELOPING COUNTRIES

APPRAISAL OF AGRICULTURAL AND RURAL DEVELOPMENT PROJECTS

EXPERIMENTAL AGRICULTURE / HORTICULTURE

HORTICULTURAL CROP TECHNOLOGY

RETHINKING AGRICULTURAL DEVELOPMENT (INCLUDING HORTICULTURE): IMPLEMENTING SOLUTIONS

WATER, AGRICULTURE AND IRRIGATION

PRINCIPLES OF INTEGRATED PEST MANAGEMENT

## CLIMATE CHANGE

CLIMATE CHANGE AND FOOD SYSTEMS

ENERGY, CLIMATE CHANGE AND DEVELOPMENT

## APPLIED ECONOMICS

CONSUMER POLICY

CONSUMER BEHAVIOUR AND FOOD MARKETING

ECONOMETRICS

MACROECONOMICS FOR DEVELOPING COUNTRIES

MICROECONOMICS FOR DEVELOPING COUNTRIES

RESOURCE AND ENVIRONMENTAL ECONOMICS

CONSUMERS, PRODUCERS, MARKETS AND TRADE

## ENVIRONMENT

CLIMATE CHANGE AND FOOD SYSTEMS

GLOBAL ENVIRONMENTAL CHANGE, JUSTICE AND DEVELOPMENT

RESOURCE AND ENVIRONMENTAL ECONOMICS

PLANTS, GREEN SPACE AND URBAN SUSTAINABILITY

ECOSYSTEM SERVICES

## FINANCE

DEVELOPMENT FINANCE

THE ECONOMICS OF FINANCIAL MARKETS

MICROFINANCE

MICROECONOMICS FOR DEVELOPING COUNTRIES

## MARKETING AND CONSUMER POLICY

ADVANCED MARKETING

ADVERTISING AND BRANDING

CONSUMER BEHAVIOUR AND FOOD MARKETING

CONSUMER POLICY

QUANTITATIVE MARKETING RESEARCH METHODS

## RESEARCH METHODS & STUDY SKILLS

MARKETING RESEARCH METHODS

QUALITATIVE RESEARCH METHODS

QUANTITATIVE MARKETING RESEARCH METHODS

RESEARCH & STUDY SKILLS FOR INDEPENDENT LEARNING

DISSERTATION (INTERNATIONAL DEVELOPMENT AND APPLIED ECONOMICS)

## POLICY AND PLANNING

AGRICULTURAL PROJECT PLANNING AND MANAGEMENT IN DEVELOPING COUNTRIES

APPRAISAL OF AGRICULTURAL AND RURAL DEVELOPMENT PROJECTS

FOOD POLICY

ADDRESSING POVERTY AND INEQUALITY THROUGH SOCIAL POLICY

## INTERNATIONAL DEVELOPMENT

COMMUNICATION FOR INNOVATION IN DEVELOPMENT

FOOD SECURITY AND DEVELOPMENT

GENDER AND DEVELOPMENT

PARTICIPATORY INTERVENTIONS IN DEVELOPMENT

ADDRESSING POVERTY AND INEQUALITY THROUGH SOCIAL POLICY

PRINCIPLES OF COMMUNICATION DESIGN FOR DEVELOPMENT

GLOBAL ENVIRONMENTAL CHANGE, JUSTICE AND DEVELOPMENT

AGRICULTURAL PROJECT PLANNING AND MANAGEMENT IN DEVELOPING COUNTRIES

DEVELOPMENT FINANCE

## PLEASE NOTE:

The above list is subject to change.

Detailed module descriptions can be found at:

[www.reading.ac.uk/apd-modules](http://www.reading.ac.uk/apd-modules)

## LANGUAGE COURSES

Students have two options if they would like to pursue a language as part of their studies. They may opt to take a 20-credit language course as one of their optional modules (subject to timetabling constraints). Courses in a number of languages, including Chinese, French, Spanish, German and Japanese are offered via the Institution Wide Language Programme.

Students may also take a language course as a non-credit bearing module. These can be taken for a fee of approximately £200 per course.

[www.reading.ac.uk/ISLI/enhancing-studies/isli-learn-a-language.aspx](http://www.reading.ac.uk/ISLI/enhancing-studies/isli-learn-a-language.aspx)

# MEET OUR STAFF

## ANDREW AINSLIE

**B.Soc Sci (Hons),  
M.Soc Sci (Rhodes); PhD (UCL)**



Andrew trained as a social anthropologist. He has twenty-five years of experience in development research and policy work in the government, NGO and university sectors. His research interests are centred on understanding both system-wide and locally specific drivers of agrarian and global environmental change. Much of Andrew's research involves working at the interface between different knowledge systems.

His current research focuses on governance, including the resurgence of 'traditional' institutions in post-colonial African states. Andrew is interested in technology-enhanced learning and in developing open online courses on issues relating to food and food security.

## ALEX ARNALL

**BSc, MSc, DPhil (Oxford)**



Alex is a social scientist conducting research and teaching on climate change, human migration/mobility and rural livelihoods. This research deploys empirically-grounded and theoretical analysis to examine how societies in developing countries anticipate, experience and respond to climate-related shocks and stresses, such as flood and drought.

Alex has particular interest in carrying out in-depth research with communities and policymakers, and understanding how people's everyday views and experiences connect with the wider dynamics of social power and environmental change. Most of his empirical work has taken place in the Maldives and Mozambique. Alex is Programme Director for MSc Food Security and Development.

## KELVIN BALCOMBE

**BCom, MCom University of Auckland; PhD, University of London.**



Kelvin's main areas of research is in applied econometrics. Historically his work focused on time series, the econometrics of food demand, and the estimation of models quantifying productivity. More recently, he has been mostly engaged with Bayesian approaches towards inference, including the treatment of data from Choice Experiments and quantifying attitudes towards risk. He has applied these techniques in a variety of contexts including agriculture, food and environmental economics. Kelvin is Programme Director for MSc Agricultural Economics.

## NICK BARDSLEY

**BA (Leeds); MA, PhD (UEA)**



Nick is Programme Director for MSc Climate Change and Development, and lectures on Energy, Climate Change and Development, and Research and Study Skills. His areas of interest are: ecological economics, particularly concerning energy and climate change; behavioural economics and its methodology.

His recent research concerns household energy use and carbon emissions in the UK, behavioural research into social aspects of individual decision making, and the relationship between agricultural intensification and deforestation.

## SARAH CARDEY

**BA (Mount Allison); MSc (Guelph); PhD (Reading)**



Sarah is an interdisciplinary social scientist who specialises in gender and development, development communication, agricultural extension and rural livelihoods. She works on questions of rural communication, gender and social inequalities. She is interested in the transformative and social change roles of communication, particularly in addressing inequalities and social differentiation.

Her work in the last few years has been in innovation systems of smallholder farmers from a gendered perspective in East Africa, the use of communication to address climate variability amongst indigenous communities in the Philippines, and rural communication services.

She has worked in a range of countries, including Uganda, Kenya, Sudan, South Africa, Cameroon, Togo, Mali, Ghana, India, Haiti, the Philippines, Canada and the UK. She is the Programme Director for the MSc Communication for Development, co-director of the MSc Applied International Development and the Director of the Graduate Institute for International Development, Agriculture and Economics.

## EDWARD COLLINS

**MSc FHEA (University of Stirling)**



Ed has more than 15 years' experience in the UK and European higher education sector having taught in various institutions across the continent. His teaching experience is focused within consumer marketing and business strategy functions. His main interest is in new business development, working to establish brands in the arts and food sectors.

Having initially had an interest in research in Political Marketing and Propaganda, he is now actively researching in the area of Learning and Teaching and enterprise in education.

### ROBBIE GIRLING

**BSc (Reading); PhD (UEA)**



Robbie is an ecologist whose research focuses on understanding the ecology of insects found in both agricultural and forest ecosystems, with the ultimate aim of enhancing sustainable crop production. His specific areas of expertise are plant-insect interactions, and insect behavioural and chemical ecology. He studies the ecological interactions of insects that are either pests or that provide beneficial ecosystem services (pest control, pollination etc).

Robbie's research to understand the ecological processes that occur amongst these groups contributes to the development of agroecological approaches for pest control, including the enhancement of natural biological control, and the development of tools for Integrated Pest Management (IPM).

### GIUSEPPE NOCELLA

**MSc (Aberdeen); PhD (Newcastle)**



Giuseppe is an Associate Professor of Consumer Research and Policy and Programme Director of MSc Food Economics and Marketing. His areas of interest focus on contemporary issues related to the agro-food sector and to the environment where he investigates the behaviour of economic agents employing theories and methodologies that are at the cross-roads between economics and social psychology.

### HENNY OSBAHR

**BBSoc, MRes, PhD (London).**



Henny is an Associate Professor in International Development specialising in rural livelihoods and agriculture, climate change, and international development. She has extensive research and consultancy experience, particularly across Africa and Asia. Henny is Co-Head of the International Development Department.

In 2014 she became a visiting Associate Professor at the Department of Environment and Livelihoods Support Systems, Mbarara University, Uganda. Her current research focuses on narratives of rural livelihood transformation, food security and water governance and their support through agricultural information services and use of participatory methodologies in West and East Africa, India and SE Asia.

### CAROLINE RYMER

**BSc (Reading) PhD (Newcastle upon Tyne)**



Caroline is an Associate Professor of Animal Science, who specialises in animal nutrition and feed characterisation, and the role that they play in increasing the efficiency of livestock production and reducing the prevalence of antimicrobial resistance.

She is the Programme Director for the MSc (by Research) in Animal Science and has developed many of the online modules that are taught on this programme. She also lectures in Animal Science in Practice, Tropical Agricultural Production and Meat Production. Before coming to Reading, she worked as a livestock extension adviser in Nepal for three years and then for a UK land based research and consultancy company (ADAS).

### C.S SRINIVASAN

**BA, Economics (Hons) (Delhi); MBA (Indian Institute of Management, Ahmedabad); MSc (LSE); PhD (Reading)**



Srinivasan is Professor of Agricultural and Development Economics in the School and has had extensive experience in the civil service in India in the areas of agricultural policy and rural development. He teaches: Development Finance, Appraisal of Agricultural and Rural Development Projects and Agricultural Project Planning and Management in Developing Countries and Financial Management.

Srinivasan's research interests include: Economic impact of intellectual property rights and agricultural biotechnology on agriculture and agricultural research and innovation, diet and nutrition transitions in developed and developing countries and genetic resource policies.



# HOW YOU WILL LEARN

## TEACHING AND RESEARCH EXPERTISE

As a student in GIIDAE, you will be taught in a School with a global reputation for the quality of its teaching and research, coupled with established links to business, giving you a wealth of experience to call upon in your chosen topic.

## TEACHING APPROACH AND PERSONAL DEVELOPMENT

Our teaching approach aims to connect theoretical understanding and practical experience. We use interactive learning to encourage students to develop a coherent understanding of current trends and debates. Methods include: interactive lectures, guest speakers, critical reading tutorials, independent assignments, group work, field trips and learning through practice - all drawing on student participation.

In addition, students also receive training and support in research and study skills, and all students have access to in-session study support and learning workshops run by the University.

International students also have the opportunity to participate in a Personal and Professional Development module and to access English for Academic Purposes support services for those who don't have English as their first language.

## RESEARCH EXPERIENCE AND NETWORKING

As part of our postgraduate studies, students complete a research dissertation, enabling them to learn and showcase the skills and experience that they have gained. Some students undertake a placement at home or overseas supported by our placement programme, while others pursue field research overseas.

# RESEARCH

One of the many benefits of studying at Reading is that you will be taught by academics with considerable expertise who are conducting ongoing research that will not only help to address key global issues, but that will also be used to inform your learning, as teaching is shaped to incorporate the latest thinking.

You can find out more about our research projects and facilities on our website: [www.reading.ac.uk/apd-research/facilities](http://www.reading.ac.uk/apd-research/facilities)

# ENTRY REQUIREMENTS

## ACADEMIC REQUIREMENTS

**Applicants are normally required to have a good undergraduate honours degree, ideally with upper second-class or above (or equivalent from an internationally recognised university outside the UK).**

Applicants who have relevant career experience are also welcome to apply. Students may join immediately after their undergraduate degree, or after some years of employment to enhance career prospects by acquiring further skills. Some economics-oriented programmes have additional entry requirements: these are indicated on the individual programme outlines in this brochure.

## PRE-SESSIONAL ECONOMICS

We offer a two week pre-sessional Economics Course, held in early September, for those who will study programmes requiring an intermediate knowledge of microeconomics and quantitative methods. Strong applicants for those programmes with little or no prior training in economics may be required to take this course.



## ENGLISH LANGUAGE REQUIREMENTS

**Applicants who are not from a majority English-speaking country (as defined by UK Visas and Immigration) will need to provide evidence of their ability to study in English.**

The list of English language tests is routinely updated, so please check to see if you already have an acceptable qualification or test, or for the most recent changes to language requirements.

The list of tests and qualifications we accept is available here: [www.reading.ac.uk/ad-englishtests](http://www.reading.ac.uk/ad-englishtests)

If you have any questions about your evidence of English language proficiency, please contact the admissions team on: [pgadmissions@reading.ac.uk](mailto:pgadmissions@reading.ac.uk)

## PRE-SESSIONAL ENGLISH

The University's International Study and Language Institute (ISLI) provides pre-sessional English languages courses for academic study as well as providing in-session support, once you are studying.

These complement the English language support provided as part of our Personal and Professional Development Programme for international students.

Please consult the following web page for the most up-to-date information on our pre-sessional English courses: [www.reading.ac.uk/islc-pre-sessionalintroduction.aspx](http://www.reading.ac.uk/islc-pre-sessionalintroduction.aspx)

# APPLICATION INFORMATION

## WHEN TO APPLY

### International/Non EU:

Although there is no formal deadline for applications we advise that you apply as early as possible. Overseas applicants (non EU) are advised to apply by 1 June or earlier, if possible, to ensure there is enough time to get a study visa processed. For further information please contact: [pgadmissions@reading.ac.uk](mailto:pgadmissions@reading.ac.uk)

### United Kingdom:

UK applicants, should ideally, apply by 1 August for start in October. For further information please contact our Postgraduate Student Office or the Admissions team: [pgso@reading.ac.uk](mailto:pgso@reading.ac.uk) or [pgadmissions@reading.ac.uk](mailto:pgadmissions@reading.ac.uk)

## HOW TO APPLY

All postgraduate programmes start in late September and have a common format, lasting 12 months. Programmes are available on a part-time basis, but please note that visa restrictions limit this to UK and EU students.

To apply for a place on any of our postgraduate programmes please complete an online application through the University's website at: [www.reading.ac.uk/living-costs](http://www.reading.ac.uk/living-costs)

## FEES

Fees can vary depending on your chosen postgraduate programme and information can be found at: [www.reading.ac.uk/living-costs](http://www.reading.ac.uk/living-costs)

Fees are normally paid in two equal instalments, upon enrolment and at the start of the second term.

## FUNDING:

For those seeking funding, we advise that you investigate relevant deadlines in detail well in advance as some applications may be required up to one year in advance of you starting your chosen course.

For information about scholarships, please visit: [www.reading.ac.uk/giidae-scholarships](http://www.reading.ac.uk/giidae-scholarships)

## LIVING COSTS

Fees do not include accommodation and other living costs. Postgraduate students are advised to check the advice for postgraduate students for guidance on what they will need to budget for living costs. An additional one-off allowance of £600 for international students is advised, to cover setup costs when they arrive.

Further information about estimated living expenses and finances can be found at: [www.reading.ac.uk/living-costs](http://www.reading.ac.uk/living-costs)

# FURTHER INFORMATION

## OPEN DAYS AND VIRTUAL MEETINGS

If you happen to be in the UK, we would love to meet you. We participate in Postgraduate Open Days at the University, and can meet individual students if they visit campus outside of our formal events. For those farther afield, we host online events, so you can get a flavour of GIIDAE from anywhere in the world. We advertise all online events through our social media channels, so follow us on Facebook to keep up to date. You are always welcome to get in touch through email and social media at any time.

## FOR INTERNATIONAL APPLICANTS:

For more information about studying with us, application and visa information, and how to meet us in your home country, please visit: [www.reading.ac.uk/study-int-home.aspx](http://www.reading.ac.uk/study-int-home.aspx)

## CONTACT:

### International Office

For enquiries from students outside the EU and information on where you can meet us in your home country:

[intoff@reading.ac.uk](mailto:intoff@reading.ac.uk)

Tel +44 (0) 118 378 3838

[www.reading.ac.uk/international](http://www.reading.ac.uk/international)

### Student Services

For questions about student accommodation, finance and enrolment:

[studenthelp@reading.ac.uk](mailto:studenthelp@reading.ac.uk)

Tel +44 (0) 118 378 5555

[www.reading.ac.uk/life](http://www.reading.ac.uk/life)

### Student Recruitment and Outreach Office

For enquiries from students in the UK and EU and information on Open Days and where you can meet us.

[studentrecruitment@reading.ac.uk](mailto:studentrecruitment@reading.ac.uk)

[www.reading.ac.uk/ready-to-study/visiting-and-open-days/postgraduate-events.aspx](http://www.reading.ac.uk/ready-to-study/visiting-and-open-days/postgraduate-events.aspx)

### Student Support Centre

[pgso@reading.ac.uk](mailto:pgso@reading.ac.uk)

Tel +44 (0) 118 378 4549

[www.reading.ac.uk/giidae](http://www.reading.ac.uk/giidae)



University of  
Reading

**For more information, please contact:**

School of Agriculture, Policy and Development  
Reading RG6 6AR, United Kingdom

[pgso@reading.ac.uk](mailto:pgso@reading.ac.uk)

Tel +44 (0118) 378 4549

[f](#) /IntDevRdg

[t](#) @UniofReading

[www.reading.ac.uk/apd](http://www.reading.ac.uk/apd)