

Work package type and ref.nr	MANAGEMENT	1
Title	Management and coordination	
Related assumptions and risks	<p>Related assumptions:</p> <ul style="list-style-type: none"> All Consortium partners will remain in the project until its termination and are committed to do their utmost best to perform the intended activities in this project and strive to reach the intended outcomes. Optimal coordination will be achieved through the establishment of open and regular communication channels; this will be further supported by the envisaged NEMEDUSSA management structure that will have an inclusive representation of both programme and partner countries and other collaborators, including external advisors. <p>Potential risks:</p>	
<i>Nematology Education in Sub</i>		
	<ul style="list-style-type: none"> Low Risk: Non-optimal use of resources and not reaching the outcomes (in time). To mitigate this risk, the Project Manager (PM) will conduct regular skype calls with all WP leaders to assess progress and address any potential deviations from the work plans. Further guidance will be ensured through the external advisors regarding the evolution of the project <i>vis a vis</i> with the intended targets through on-line meetings held every 4 months. Low Risk: Situations of civil unrest or insecurity in the selected countries where activities will take place, that may hamper implementation of activities. In case where security issues may arise, the project will seek to temporarily transfer outputs/activities to other partners/areas until security is reinstated. Low Risk: Accreditation issues at the partner HEIs for developed BSc and MSc modules. Medium Risk: Potential delays in visa approval for SSA partners to travel to training activities in the EU (Belgium, France). To mitigate this risk, issuance of visas will be done with enough time, staff eligible to attend those trainings will be selected, at least 6 months before travel, in order to guarantee sufficient time to obtain necessary permits. 	
Description	<p>This WP hosts the Project Manager, administrative support and the NEMEDUSSA's governing structures necessary for the</p> <ul style="list-style-type: none"> general overseeing of the project, including implementation of the administrative tasks technical and financial reporting to EACEA compliance with rules and regulations from EC (also WP6) monitoring & evaluation of the outcomes (also WP6) dissemination & exploitation of its outcomes to the general public (also WP7), in a coordinated and effective manner 	

Tasks	<ul style="list-style-type: none"> Recruitment of the Project Manager (PM) at UGent and administrative support at MoiU Establishment and functioning of the NEMEDUSSA Educational Committee (NEC) Establishment and functioning of the PANEMA Organising Committee (OC) Appointment of 3 external advisors (Dr. Matthew Back (Harper Adams University, UK), Prof. em. Richard Sikora (University of Bonn, Germany) and dr. Mieke Danneel (Agricultural Research Council, South Africa) Organisation of 36 online meetings (1st week of every month), production of minutes and circulation to partners Organisation of 9 online meetings (1st week every 4 months) of the NEC, production of minutes and circulation to partners Organisation of 4 physical NEMEDUSSA Meetings (3 days): Kick Off (February 2021); Intermediate 1 (February 2022); Intermediate 2 (February 2023); and Closing Meeting (November 2023) Organisation of 2 PANEMA Workshops (6 days) in Africa (May 2022 and November 2023) Annual technical and financial reporting to donors 		
Estimated Start Date (dd-mm-yyyy)	15-01-2021	Estimated End Date (ddmm-yyyy)	15-01-2024
Lead Organisation	WP leader: UGent WP coleader: MoiU		
Participating Organisation	All programme country partners (2), and all HEI and non-academic partner country partners (2)		
Costs <i>Please explain the necessary costs for this WP: What travels are necessary? If equipment is requested, explain why it is required. If subcontracting is necessary, explain why the task cannot be performed by the partner.</i>	Staff time for Project Manager based at Ghent University (450 days = FTE 70%; other 30%, cofinanced by UGent) Staff time for administrative support at Moi University (150 days) Travel cost and cost of stay for participation to NEMEDUSSA Meetings. Subcontracts to support the participation of 3 external advisors for the project in the activities and in the NEMEDUSSA Educational Committee.		

Deliverables/results/outcomes

Expected Deliverable/Results/Outcomes	Work Package and Outcome ref.nr	1.1.	
	Title	NEMEDUSSA Educational Committee (NEC)	
	Type	<input type="checkbox"/> Teaching material <input type="checkbox"/> Learning material <input type="checkbox"/> Training material	<input checked="" type="checkbox"/> Event <input checked="" type="checkbox"/> Report <input checked="" type="checkbox"/> Service/Product

	Description	<p>The Project Manager, administrative support, and WP leaders report to the NEMEDUSSA Educational Committee (NEC) based on joint reports. The expected deliverables of this WP are:</p> <ul style="list-style-type: none"> • Establishment of a functional NEC during the Kick Off Meeting of the project (see WP1.4), the members of the NEC will be selected, based on the following structure: <ul style="list-style-type: none"> - chair - 1 representative per partner - 3 external advisors - invited representatives from the private/public sector - secretary: NEMEDUSSA PM • 4 physical NEC meetings during the NEMEDUSSA Meetings (WP1.4 - WP1.7), to be held between January 2021 and November 2023. • 9 online NEC meetings (1st week every 4 months) by the NEC, to be held between January 2021 and November 2023. • Production of minutes, including action points and recommendations, after every NEC meeting (online and/or physical) and circulated to partners. <p>Every NEC meeting will be chaired by a democratically elected chair. For the Kick Off Meeting, this will be prof. Wim Bert from UGent; secretary for the NEC meetings will be the UGent PM.</p>
	Due date	Jan 2021 – Jan 2024
	Languages	English
Target groups	<input checked="" type="checkbox"/> Teaching staff <input checked="" type="checkbox"/> Students <input type="checkbox"/> Trainees <input checked="" type="checkbox"/> Administrative staff <input checked="" type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input checked="" type="checkbox"/> Other	
	<i>Private and public sector</i>	
Dissemination level	<input type="checkbox"/> Department / Faculty <input type="checkbox"/> Local <input type="checkbox"/> National <input type="checkbox"/> Institution <input type="checkbox"/> Regional <input checked="" type="checkbox"/> International	

Expected Deliverable/Results/Outcomes	Work Package and Outcome ref.nr	1.2.	
	Title	Establishment of PANEMA Organising Committee (POC)]	
	Type	<input type="checkbox"/> Teaching material <input type="checkbox"/> Learning material <input type="checkbox"/> Training material	<input type="checkbox"/> Event <input type="checkbox"/> Report <input checked="" type="checkbox"/> Service/Product

	Description	<p>An Organising Committee in charge of the development and management of the Pan-African Nematology Network (PANEMA) is established. PANEMA promotes networking and learning exchange for nematology in SSA (WP5). The PANEMA Organising Committee (POC) will work under the wings of the NEMEDUSSA Consortium. The objective of the POC will be to become an initiating body for the future development of a multi-stakeholder platform in the region, that stimulates networking and collaboration within and outside the African continent, and will include educational institutions but also national programmes and private sector. For the composition of the POC, a multigenerational and gender-balanced approach will be taken into consideration. The POC will consist of</p> <ul style="list-style-type: none"> • Chair : rotating • 4 representatives of NEMEDUSSA HEIs • 2 representatives of the non-academic partners (IITA and icipe) • 2 external members from private sector • Secretary : NEMEDUSSA PM <p>See WP5 for specific activities related to the tasks of PANEMA.</p>
	Due date	Feb 2021
	Languages	English & French
Target groups	<input checked="" type="checkbox"/> Teaching staff <input checked="" type="checkbox"/> Students <input type="checkbox"/> Trainees <input checked="" type="checkbox"/> Administrative staff <input checked="" type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input checked="" type="checkbox"/> Other	
	<i>Private and public sector</i>	
Dissemination level	<input type="checkbox"/> Department / Faculty <input type="checkbox"/> Local <input type="checkbox"/> National <input type="checkbox"/> Institution <input type="checkbox"/> Regional <input checked="" type="checkbox"/> International	

Expected Deliverable/Results/Outcomes	Work Package and Outcome ref.nr	1.3.	
	Title	Project Manager (PM) and administrative support	
	Type	<input type="checkbox"/> Teaching material <input checked="" type="checkbox"/> Event <input type="checkbox"/> Learning material <input checked="" type="checkbox"/> Report <input type="checkbox"/> Training material <input checked="" type="checkbox"/>	Service/Product

	Description	<p>A full time Project Manager (PM) (100% FTE) will be recruited by UGent and based in Belgium, and will actively work together and under the supervision of the NEC. The staff time of the PM will be 30% cofinanced by UGent. Also 150 days administrative support is foreseen at MoiU.</p> <p>Their roles and responsibilities will be:</p> <ul style="list-style-type: none"> • Promote timely and effective communication among partners and collaborators. • Follow-up progress of the project's technical and financial reports; ensure timely submission of these reports to donor. • Organise travel arrangements for partners and participants. • Ensure the activities are implemented according to the work plan and that the WPs' deliverables are aligned to the M&E Matrix. • Joint identification with partners and collaborators of risks
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		<p>arising during project implementation and establishment of mitigation measures.</p> <ul style="list-style-type: none"> • Quality control: organise the external audit and coordinate the reporting to the auditors (WP6). • Provide secretarial support to the NEC and to the POC. • Support WP7 on dissemination activities: website, Nematology Digital Learning Platform (NDLP), general communication, promotion, and seeking additional sponsorship.
	Due date	Jan 2021 – Jan 2024
	Languages	English & French
Target groups	<input type="checkbox"/> Teaching staff <input type="checkbox"/> Students <input type="checkbox"/> Trainees <input checked="" type="checkbox"/> Administrative staff <input type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input type="checkbox"/> Other	
Dissemination level	<input type="checkbox"/> Department / Faculty <input type="checkbox"/> Local <input type="checkbox"/> National <input type="checkbox"/> Institution <input type="checkbox"/> Regional <input checked="" type="checkbox"/> International	

Expected Deliverable/Results/Outcomes	Work Package and Outcome ref.nr	1.4.	
	Title	Organisation of NEMEDUSSA Kick Off Meeting	
	Type	<input type="checkbox"/> Teaching material <input type="checkbox"/> Learning material <input type="checkbox"/> Training material	<input checked="" type="checkbox"/> Event <input checked="" type="checkbox"/> Report <input type="checkbox"/> Service/Product

	Description	<p>The Kick Off Meeting (Feb 2021, Kenya) will mark the start of the project. The following topics will be discussed:</p> <ul style="list-style-type: none"> • WP overview and planning. • Signing of the Consortium Agreement. • Revision material for lab/IT and discussion. • WP3: BSc module: who will develop which part in module and which content should be there. Preparations of trialruns in 2022. • WP4: MSc module: evaluation of module given at MoiU. • Content needed to further develop Nematology Digital Learning Platform (NDLP) with extra material, literature and networking possibilities in support of the nematology curriculum. • PANEMA Organising Committee meeting: Workshop May 2022, presentation to Consortium, discussion. • WP6: presentation of quality plan. • WP7: presentation of dissemination activities, dissemination per WP, presentation, discussion. • Feedback of external advisors. 	
	Due date	Feb 2021	
	Languages	English	
Target groups	<input checked="" type="checkbox"/> Teaching staff <input checked="" type="checkbox"/> Students <input type="checkbox"/> Trainees <input checked="" type="checkbox"/> Administrative staff <input checked="" type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input checked="" type="checkbox"/> Other		
Dissemination level	<input type="checkbox"/> Department / Faculty <input type="checkbox"/> Local <input type="checkbox"/> National <input type="checkbox"/> Institution <input type="checkbox"/> Regional <input checked="" type="checkbox"/> International		
Expected Deliverable/Results/Outcomes	Work Package and Outcome ref.nr	1.5.	
	Title	Organisation of NEMEDUSSA Intermediate 1 Meeting	
	Type	<input type="checkbox"/> Teaching material <input type="checkbox"/> Learning material <input type="checkbox"/> Training material	<input checked="" type="checkbox"/> Event <input checked="" type="checkbox"/> Report <input type="checkbox"/> Service/Product

	Description	<p>The Intermediate 1 Meeting (Feb 2022) will be organised in Kenya. The following topics will be discussed:</p> <ul style="list-style-type: none"> • Update on activities and achievements WPs. • WP3: discussion feedback and remediation plan BSc module material, set dates for trial-runs in 2023 – workshop with 2022 trial-run partners, workshop with peers about evaluation method. • Content needed to further develop Nematology Digital Learning Platform (NDLP) with extra material, literature and networking possibilities in support of the nematology curriculum. • Internships and thesis subjects MSc level. • PANEMA Organising Committee meeting: Workshops May 2022 and November 2023, presentation to Consortium, discussion. • Feedback of external advisors.
	Due date	Feb 2022
	Languages	English
Target groups	<input checked="" type="checkbox"/> Teaching staff <input checked="" type="checkbox"/> Students <input type="checkbox"/> Trainees <input checked="" type="checkbox"/> Administrative staff <input checked="" type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input checked="" type="checkbox"/> Other	
	<i>private and public sector</i>	
Dissemination level	<input type="checkbox"/> Department / Faculty <input type="checkbox"/> Local <input type="checkbox"/> National <input type="checkbox"/> Institution <input type="checkbox"/> Regional <input checked="" type="checkbox"/> International	

Expected Deliverable/Results/Outcomes	Work Package and Outcome ref.nr	1.6.	
	Title	Organisation of NEMEDUSSA Intermediate 2 Meeting	
	Type	<input type="checkbox"/> Teaching material <input type="checkbox"/> Learning material <input type="checkbox"/> Training material	<input checked="" type="checkbox"/> Event <input checked="" type="checkbox"/> Report <input type="checkbox"/> Service/Product
	Description	<p>The Intermediate 2 Meeting (Feb 2023) will be organised in Kenya. The following topics will be discussed:</p> <ul style="list-style-type: none"> • Update on activities and achievements WPs. • Discussion feedback and remediation plan BSc module after trial-runs in 2022, workshop with 2023 trial-run partners, workshop with peers about evaluation 	

		<p>method.</p> <ul style="list-style-type: none"> • Presentation results of 2 MSc module trial-runs Benin/Kenya, followed by discussion about feedback and remediation plan MSc module on nematology at model university. • A discussion about the feasibility and necessity of integrating an MSc module at other SSA partner HEIs. • PANEMA Organising Committee meeting: evaluation Workshop May 2022, organisation Workshop Nov 2023, presentation and discussion. • Presentation Nematology Digital Learning Platform (NDLP) and last gaps. • Potential next steps. • Feedback of external advisors. • External audit.
	Due date	Feb 2023
	Languages	English
Target groups	<input checked="" type="checkbox"/> Teaching staff <input checked="" type="checkbox"/> Students <input type="checkbox"/> Trainees <input checked="" type="checkbox"/> Administrative staff <input checked="" type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input checked="" type="checkbox"/> Other	
	<i>private and public sector</i>	
Dissemination level	<input type="checkbox"/> Department / Faculty <input type="checkbox"/> Local <input type="checkbox"/> National <input type="checkbox"/> Institution <input type="checkbox"/> Regional <input checked="" type="checkbox"/> International	

Expected Deliverable/Results/Outcomes	Work Package and Outcome ref.nr	1.7.	
	Title	Organisation of NEMEDUSSA Closing Meeting	
	Type	<input type="checkbox"/> Teaching material <input type="checkbox"/> Learning material <input type="checkbox"/> Training material	<input checked="" type="checkbox"/> Event <input checked="" type="checkbox"/> Report <input type="checkbox"/> Service/Product

	Description	<p>The Closing Meeting (Nov 2023) will be organised back-to-back with the 2nd PANEMA Workshop. The following topics will be on the agenda:</p> <ul style="list-style-type: none"> • Update and evaluation all WPs. • Presentation results of two MSc module trial-runs Benin/Kenya, followed by discussion about feedback and remediation plan MSc module on nematology at model university. • Discussion about the feasibility and necessity of integrating an MSc module at other SSA partner HEIs. • PANEMA Organising Committee meeting: evaluation and ways forward. • Last gaps Nematology Digital Learning Platform (NDLP). • Potential next steps. • Feedback of external advisors. • External audit. 	
	Due date	Nov 2023	
	Languages	English	
Target groups	<input checked="" type="checkbox"/> Teaching staff <input checked="" type="checkbox"/> Students <input type="checkbox"/> Trainees <input checked="" type="checkbox"/> Administrative staff <input checked="" type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input checked="" type="checkbox"/> Other		
	<i>private and public sector</i>		
Dissemination level	<input type="checkbox"/> Department / Faculty <input type="checkbox"/> Institution	<input type="checkbox"/> Local <input type="checkbox"/> Regional	<input type="checkbox"/> National <input checked="" type="checkbox"/> International

Expected Deliverable/Results/ Outcomes	Work Package and Outcome ref.nr	1.8.	
	Title	Annual elaboration, endorsement and submission of technical and financial reports to the donor	
	Type	<input type="checkbox"/> Teaching material <input type="checkbox"/> Learning material <input type="checkbox"/> Training material	<input checked="" type="checkbox"/> Event <input checked="" type="checkbox"/> Report <input checked="" type="checkbox"/> Service/Product

	Description	<p>Timely elaboration and submission of the technical and financial reports of the NEMEDUSSA project to the donor (EACEA).</p> <ul style="list-style-type: none"> • Progress annual SERs and financial reports (every 6 months) from WP leaders and partners • 1 joint annual interim report produced after 18 months of inception fo the project • 1 final report at the end of the project For reporting purposes: • The Project Manager will receive Self-Evaluation Reports (SERs) of all WP leaders and will elaborate yearly NEMEDUSSA SERs and an interim report after the first 18 project months indicating the activities conducted along the period, the progress achieved in the project vis a vis with the expected indicators from the M&E Matrix, pictures or videos of the work conducted, and sex-disaggregated information of participants related to their activities. • These will include timesheets for the project's staff. Every 6 months, each of the partners will also elaborate a financial report that will be cleared by the administrative support staff (MoiU) and the PM before submission to the donor. <p>For accountability and transparency, the SERs, and the interim and final reports from all the partners related to their activities will be uploaded to the NEMEDUSSA website- into the intranet and once approved by the donor, these will be available in OA on the websites.</p>
	Due date	<p>SERs per WP and for NEMEDUSSA: yearly Joint interim report for EACEA: June 2022 Final NEMEDUSSA report: January 2024</p>
	Languages	English
Target groups	<input type="checkbox"/> Teaching staff <input type="checkbox"/> Students <input type="checkbox"/> Trainees <input checked="" type="checkbox"/> Administrative staff	

Work package type and ref.nr	DEVELOPMENT		2
Title	General development: Building nematological capacity in SSA through academic and technical staff, facilities and equipment		
Related assumptions and risks	<p>Related assumptions: The Consortium partners identified during the Project Brainstorm Meeting in Kenya in June 2019 (WPO) their main needs, challenges and potential contributions to enhance the component of nematology in their curricula; these apply both to the theoretical content (formal lectures) and to the activities for hands-on training in the laboratory and/or in the field. The main areas identified that should be targeted in the current project are listed below:</p> <ul style="list-style-type: none"> • Through the enhancement of capacity of local staff at HEIs, better quality education can be delivered. Staff currently supporting lectures and practical sessions (laboratory technicians, research associates) are lacking sufficient expertise to conduct training in nematology; this also refers to training on good practices for management and maintenance of laboratory equipment and facilities is needed (lessons learned from the NIESA project) to ensure sustainability of the same. • Improving laboratory and e-learning facilities to deliver quality hands-on trainings and future research: <ul style="list-style-type: none"> - The discipline nematology deals with microscopic organisms and for students to get proper training, good quality microscopes are needed and for additional identification, basic molecular tools are required as well. - IT facilities and multimedia tools allow multi-location learning and give students access to courses at other universities. Educational platforms can allow students to follow webinars and do distance learning. <p>Potential risks:</p> <ul style="list-style-type: none"> • <i>Low risk:</i> HEIs' staff are unable to travel to training hubs outside their countries due to visa problems. • <i>Mid risk:</i> Challenges to procure suitable equipment for laboratory and e-learning rooms by the HEIs during the time-frame of the project; in case of procurement challenges, external support from partners and collaborators in the region will be provided to guarantee access to the right materials (purchase in country A and transport to country B). 		
Description	Based on the needs identified by the partner HEIs and on the outcomes expected from WP3 and WP4, the main outcomes of the current WP focus primarily on improving the basic structural supporting context already existing in SSA by: <ul style="list-style-type: none"> • Enhancing the capacity of local staff at HEIs to deliver effective trainings. • Improving the laboratory and e-learning facilities for better quality trainings. 		
Tasks	<ul style="list-style-type: none"> • Organise short-stays and specialised trainings of the HEI staff at PhD/MSc level (lectures assistants, associate professors, WP2.1) and (laboratory assistants and technicians, WP2.2) in basic nematology. • Conduct a joint evaluation and a procurement plan with each HEIs, regarding their needs to upgrade teaching and training facilities, including small equipment and materials (WP2.3). 		
Estimated Start Date (dd-mm-yyyy)	15-01-2021	Estimated End Date (dd-mm-yyyy)	15-01-2024
Lead Organisation	WP leader: UCA WP coleaders: SUN, IITA, icipe		
Participating Organisation	All programme country partners (2), and all HEI and non-academic partner country partners (2)		
Costs <i>Please explain the necessary costs for this WP: What travels are</i>	<ul style="list-style-type: none"> • Staff time for the WP leader and coleaders. 		

<p><i>necessary? If equipment is requested, explain why it is required. If subcontracting is necessary, explain why the task cannot be performed by the partner.</i></p>	<ul style="list-style-type: none"> • Travel budget for the selected participants to attend to the identified courses (including air plane tickets, accommodation and per diem). No bench fees required for participants. • Equipment identified by partners that it is required to upgrade quality of the practical sessions and allow the participation of more students, allow research of MSc and PhD students: compound microscopes, binocular lenses, stainless-steel sieves; micropipettes for nematode inoculation and molecular work. • Equipment identified by partners piloting BSc and MSc modules for the inclusion in the lectures of multimedia content (on-line conferences, seminars, videos, etc): laptops; computer desktops, projector, screen. • Subcontracting to support UCA on the translation and adaption of training materials into French. • Subcontracting for the editorial/ design work for the training manuals and printing.
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Deliverables/results/outcomes

<p>Expected Deliverable/Results/Outcomes</p>	Work Package and Outcome ref.nr	2.1.	
	Title	Capacity building of the academic HEI staff through training abroad	
	Type	<input type="checkbox"/> Teaching material <input type="checkbox"/> Learning material <input checked="" type="checkbox"/> Training material	<input type="checkbox"/> Event <input type="checkbox"/> Report <input checked="" type="checkbox"/> Service/Product
	Description	<p>Enhancing the capacity of local academic staff at HEIs through training abroad, where participants will follow course units and trainings at UGent (Belgium), UCA (France), and SUN (South Africa).</p> <p>Along the duration of the project, a total of 30 staff comprised of research associates and associate professors holding a relevant PhD/MSc, and employed at HEIs, will receive specific trainings based on the needs already identified by partners to reinforce their academic teams.</p> <p>Course units from the International MSc in Agro- and Environmental Nematology (IMaNema) at UGent :</p> <ul style="list-style-type: none"> • Diversity of plant-parasitic nematodes (3 weeks): HEIs participating (number of staff) will be KU (1), JU (1), MU (1), UI (1), NWU (1) • Soil biodiversity and nematodes as bio-indicators for soil health (3 weeks): KU (1), JU (1), SUN (1), NWU (1) • Quantitative plant nematology (1 week): HU (3) • 1 staff member from MoiU will follow all courses during the 1st semester of the 1st master year (19 weeks) <p>Course units from the MSc in Biocontrol Solutions for Plant Health (BOOST) at UCA:</p> <ul style="list-style-type: none"> • Soil borne-pathogen and nematode interactions : MAK (1) • Nematology taxonomy : HU (2), UAC (1), UP (1) • Use of advanced molecular tools for nematology: HU (1), JU (1), UAC (1), MAK (1), MU (1), ABU (1), SUN (1), NWU (1) 	

		Course units at SUN: <ul style="list-style-type: none"> Entomopathogenic nematodes (1 week): KU (1), JU (1), UAC (1), MU (1)
	Due date	Jan 2022
	Languages	English & French
Target groups	<input checked="" type="checkbox"/> Teaching staff <input type="checkbox"/> Students <input type="checkbox"/> Trainees <input type="checkbox"/> Administrative staff <input type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input type="checkbox"/> Other	
	<i>If you selected 'Other', please identify these target groups. (Max. 250 words)</i>	
Dissemination level	<input checked="" type="checkbox"/> Department / Faculty <input checked="" type="checkbox"/> Institution	<input type="checkbox"/> Local <input checked="" type="checkbox"/> Regional <input type="checkbox"/> National <input checked="" type="checkbox"/> International

Expected Deliverable/Results/Outcomes	Work Package and Outcome ref.nr	2.2.	
	Title	Capacity building of the technical HEI staff through a Basic Crash Course in Nematology (BCCN) in Kenya	
	Type	<input type="checkbox"/> Teaching material <input type="checkbox"/> Learning material <input checked="" type="checkbox"/> Training material	<input type="checkbox"/> Event <input type="checkbox"/> Report <input checked="" type="checkbox"/> Service/Product
	Description	<p>Enhancing the capacity of local technical staff at HEIs through attendance to a 1-week training in Kenya. Along the duration of the project, a total of 15 staff identified by the HEIs, holding relevant BSc/MSc degrees, will receive practical training based on the needs already identified by partners: MoiU (1), HU (1), UAC (1), UP (2), MAK (2), MU (1), ABU (2), UI (1), SUN (2), NWU (2). Trainees will attend to:</p> <ul style="list-style-type: none"> Basic Crash Course Nematology (BCCN) in Kenya (December 2021 and 2022), delivered by UGent/IITA/icipe, is a 1-week crash course that allows participants to have a general understanding about nematology and to become acquainted to basic techniques for nematology work. The BCCN is already organised through the IManema project in collaboration with UGent and IITA/icipe. Therefore, the attendance of the participants to this training will be co-sponsored between the IManema project (covering the tuition fees of 500 euro for all the alumni) and the NEMEDUSSA project (covering for travel and accommodation). Basic microscopic techniques, calibration and maintenance of lab equipment (1-day training back-to-back with BCCN. This training will be given by a staff member from UGent already present at BCCN. <p>A training manual for technical staff will be provided and disseminated through the Nematology Digital Learning Platform (NDLP). The Manual Plant Nematology is already developed and printed within the IManema project in cooperation with several other private sponsors.</p>	

	Due date	Dec 2022
	Languages	English
Target groups	<input type="checkbox"/> Teaching staff <input type="checkbox"/> Students <input type="checkbox"/> Trainees <input type="checkbox"/> Administrative staff <input checked="" type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input type="checkbox"/> Other	
	<i>If you selected 'Other', please identify these target groups. (Max. 250 words)</i>	
Dissemination level	<input checked="" type="checkbox"/> Department / Faculty <input checked="" type="checkbox"/> Institution	<input type="checkbox"/> Local <input type="checkbox"/> Regional <input type="checkbox"/> National <input type="checkbox"/> International

Expected Deliverable/Results/Outcomes	Work Package and Outcome ref.nr	2.3.	
	Title	Upgrading laboratory equipment and e-learning facilities to deliver better quality education at SSA partner HEIs	
	Type	<input checked="" type="checkbox"/> Teaching material <input checked="" type="checkbox"/> Learning material <input type="checkbox"/> Training material	<input type="checkbox"/> Event <input type="checkbox"/> Report <input type="checkbox"/> Service/Product
	Description	<p>During the Project Brainstorm Meeting (June 2019, Kenya), partner HEIs identified the need for upgrading equipment and e-learning resources/materials to provide quality training at their institutions. The partner HEIs will be provided with lab equipment to support the nematological courses and to build/expand facilities for innovative and e-distance learning. This will be achieved by:</p> <ul style="list-style-type: none"> • Developing a prioritised procurement plan for each HEI. During the NEMEDUSSA Kick Off Meeting (WP1.4) a joint assessment of the needs will be conducted by the PM and all the HEIs focal points. This should include material to be used by each HEI during implementation of activities for dissemination and exploitation envisaged in WP7. • Providing of technical specifications for lab equipment and IT and multimedia tools and validation of the same by the PM, to ensure optimum quality and similar standards across HEIs. • Launching of local purchase orders at national level and/or international bids for acquisition of equipment, if needed (i.e. microscopes). • Developing an action plan by the HEIs for the arrival of equipment and materials and its distribution, whenever necessary. • Further develop the Nematology Digital Learning Platform (NDLP), which is already active as e-learning platform and is managed by UGent. <p>NOTE: The partner HEIs themselves are responsible for the furnishing and organisation of the lab and lecture rooms. The project will not support major infrastructural upgrades.</p>	

	Due date	Jan 2022
	Languages	English
Target groups	<input checked="" type="checkbox"/> Teaching staff <input checked="" type="checkbox"/> Students <input type="checkbox"/> Trainees <input type="checkbox"/> Administrative staff <input checked="" type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input type="checkbox"/> Other	
Dissemination level	<input checked="" type="checkbox"/> Department / Faculty <input checked="" type="checkbox"/> Institution	<input type="checkbox"/> Local <input type="checkbox"/> Regional <input type="checkbox"/> National <input type="checkbox"/> International

Work package type and ref.nr	DEVELOPMENT		3
Title	BSc level development: Building nematological capacity in SSA through BSc modules		
Related assumptions and risks	<ul style="list-style-type: none"> Nematodes are commonly overlooked organisms in crop protection when compared for example to fungi or insects, although they can have an huge impact on crop yields. This results in low awareness of nematodes as plant pests, as biocontrol agents or bio-indicators for environmental health (soil and water). There is insufficient education in nematology in SSA. Especially on BSc level, the survey of Cortada et al. (2019) showed that the majority of respondents were not introduced to nematology at BSc level, but only on a later educational level (MSc level and the majority only at UGent). The current partner HEIs have introduced or are planning to include nematology modules at BSc level in curricula of existing BSc programmes. However, an increase of the quality of the existing training and/or support to develop a comprehensive BSc module is highly needed. In order to promote and raise awareness on the field of nematology towards students, education on BSc level is required. In this way, students get acquainted in an early stage of their study career, leading them to choose for a research topic and/or further training in nematology, and most importantly to provide basic theoretical and practical nematological knowledge for graduates entering the job market (agricultural extension, technical assistants at private/public sector, education) with. This will result in more outreach and awareness. Staff is trained and facilities are upgraded (WP2.1, 2.2 and 2.3). 		
Description	<ul style="list-style-type: none"> In this WP the capacity building will focus on the development of comprehensive BSc modules of about 3 weeks. Considering the needs of the job market and the SSA context, a general overview of the discipline nematology will be combined with a very practical and applied focus. The BSc modules will consist of compact units of a specific field in nematology. For the theoretical part webinars will be created on the Nematology Digital Learning Platform (NDLP) to allow self-study followed by classes where students can ask questions and the possibility for the lecturer to transfer additional theoretical knowledge, with a maximum of 1 week contact hours. The entire module will comprise a theoretical part of 2 weeks, including flipped classroom, and a practical session of 1 week. The BSc modules will have a trial-run. 		
Tasks	<ul style="list-style-type: none"> Development teaching material BSc modules: webinars and handbook, guidelines for examination. Trial-runs of pilot nematology BSc modules with students from partner HEIs in every partner country (5), with the exception of South Africa, with quality control: <ul style="list-style-type: none"> Peer evaluation of the 1 week practical part of the nematology BSc module by 2 peers: 1 from partner HEI in same country, 1 from other country. Evaluation by lecturers and participating students of course material, student learning curve and feedback. Update and remediation. The final BSc modules and learning materials can be implemented at all partners to either enhance existing BSc course units covering nematology or to introduce a module in nematology in existing BSc programmes. 		
Estimated Start Date (dd-mm-yyyy)	15-01-2021	Estimated End Date (dd-mm-yyyy)	15-01-2024
Lead Organisation	WP leader: KU WP coleaders: JU, MAK		
Participating Organisation	All programme country partners (2), and all HEI and non-academic partner country partners (2)		

<p>Costs Please explain the necessary costs for this WP: What travels are necessary? If equipment is requested, explain why it is required. If subcontracting is necessary, explain why the task cannot be performed by the partner.</p>	<p>Staff time for partners for the revision of the BSc curricula of the HEIs, development and introduction of new contents into newly developed modules, revision of the same, technical approval, editing and proof reading all materials.</p> <p>Staff time for organising the trial-runs and function as peer.</p> <p>Travel costs for the attendance of partners to trial-runs of the modules.</p> <p>Subcontracting to support UCA on the translation and adaption of modules into French.</p>
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Deliverables/results/outcomes

<p>Expected Deliverable/Results/Outcomes</p>	Work Package and Outcome ref.nr	3.1.	
	Title	Develop BSc modules and lecturing material	
	Type	<input checked="" type="checkbox"/> Teaching material <input checked="" type="checkbox"/> Learning material <input checked="" type="checkbox"/> Training material	<input type="checkbox"/> Event <input type="checkbox"/> Report <input type="checkbox"/> Service/Product
	Description	<p>During the preparatory Project Brainstorm Meeting (WP0), the subjects for the to develop BSc module were identified by all NEMEDUSSA partners:</p> <ul style="list-style-type: none"> - General biology of nematodes - Basic nematology techniques - Identification of major nematode groups and important plant-parasitic nematodes - Symptoms of nematode damage - Basic principles of management of plant-parasitic nematodes - Introduction to the use of nematodes in biological control <p>The BSc modules will consist of around 10 ECTS credits, depending on the needs of the partner HEI. The module can consist of multiple course units.</p> <p>We define a module equal to the terminology 'Course' used in the EForm of this project proposal. NEMEDUSSA will develop 17 modules, 1 BSc module in each of the 12 SSA HEIs (WP3), and 5 MSc modules at MoiU, UP, UAC, SUN and NWU (WP4). Contents of the BSc modules will be overlapping, although the modules developed for each partner HEIs is catered to the need of its students.</p> <p>During the NEMEDUSSA Kick Off Meeting staff members from all partners will be assigned to develop BSc level modules based on their specific expertise. They will have 7 months to develop lecture presentation slides, webinars, guidelines and a handbook for the practical sessions. The material should include guidelines for potential lecturers paying attention to good practices and evaluation methods, and the actual lecture material for students. The WP leader coordinates/collects all material and sends the finished material to the UGent PM. The material will be peer reviewed by UGent, UCA, IITA and icipe staff and the external advisors and sent back to WP leader, for adjustments and improvements. The PM will then be responsible to develop a final</p>	

		handbook with links to webinars on the NDLP and other material, according to a set house style. That product will be presented during the Intermediate 1 Meeting, with room for discussion and final changes. Finally a French translation of this material will be made.
	Due date	Sep 2021: submit course material to PM Nov 2021: revision of course material by UGent, UCA, IITA, icipe, external advisors Dec 2021: remediation of remarks Feb 2022: final handbook in English ready for trial-runs, presentation during NEMEDUSSA Intermediate 1 Meeting Apr 2022: French translation
	Languages	English, French
Target groups	<input checked="" type="checkbox"/> Teaching staff <input checked="" type="checkbox"/> Students <input type="checkbox"/> Trainees <input type="checkbox"/> Administrative staff <input checked="" type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input type="checkbox"/> Other	
	<i>If you selected 'Other', please identify these target groups. (Max. 250 words)</i>	
Dissemination level	<input type="checkbox"/> Department / Faculty <input type="checkbox"/> Local <input type="checkbox"/> National <input type="checkbox"/> Institution <input type="checkbox"/> Regional <input checked="" type="checkbox"/> International	

Expected Deliverable/Results/Outcomes	Work Package and Outcome ref.nr	3.2.	
	Title	Trial-runs for BSc modules on nematology at selected partner HEIs	
	Type	<input type="checkbox"/> Teaching material <input type="checkbox"/> Learning material <input type="checkbox"/> Training material	<input checked="" type="checkbox"/> Event <input checked="" type="checkbox"/> Report <input type="checkbox"/> Service/Product
	Description	<p>The trial-runs of the BSc modules will be organised for local students with a background in agronomy and biology, staff members from universities, the public and private sector can register for free with a maximum of 15 participants per trial-run. A registration tool will be provided by UGent.</p> <p>The module will run for 3 weeks in total of which 1 week are practical sessions.</p> <p>In September-October-November 2022 the module will be tested by: UAC (Benin), UI (Nigeria), MoiU (Kenya), JU (Ethiopia), MU (Uganda).</p> <p>In September-October 2023 the module will be tested by: UP (Benin), ABU (Nigeria), KU (Kenya), HU (Ethiopia) and MAK (Uganda).</p> <p>The developed course material is being used by the lecturers of each university during the trial-runs and will be evaluated by the lecturer and the students.</p> <p>In each year and at each university 2 peers will attend the trial-run of the practical sessions to act as observers, back stoppers and evaluators. One peer from the partner HEI in the same country</p>	

		<p>and 1 from another partner country. They prepare a report for the WP leader and PM.</p> <p>The PM annually prepares a report based on the feedback of all evaluators and presents it to the NEMEDUSSA Consortium (Intermediate 2 and Closing Meetings). This will be used to adapt, update the course material and to remediate other shortcomings.</p> <table border="1"> <thead> <tr> <th>BSc modules trial-runs done at</th> <th>Peers involved in trial-runs</th> </tr> </thead> <tbody> <tr> <td>2022</td> <td></td> </tr> <tr> <td>UAC (Benin)</td> <td>UP (Benin) + UI (Nigeria)</td> </tr> <tr> <td>MoiU (Kenya)</td> <td>KU (Kenya) + icipe (Kenya)</td> </tr> <tr> <td>UI (Nigeria)</td> <td>ABU (Nigeria) + UP (Benin)</td> </tr> <tr> <td>JU (Ethiopia)</td> <td>HU (Ethiopia) + SUN (SA)</td> </tr> <tr> <td>MU (Uganda)</td> <td>MAK (Uganda) + IITA (Kenya)</td> </tr> <tr> <td>2023</td> <td></td> </tr> <tr> <td>UP (Benin)</td> <td>UAC (Benin) + UCA (France)</td> </tr> <tr> <td>ABU (Nigeria)</td> <td>UAC (Benin) + UI (Nigeria)</td> </tr> <tr> <td>KU (Kenya)</td> <td>Moi (Kenya) + MU (Uganda)</td> </tr> <tr> <td>HU (Ethiopia)</td> <td>JU (Ethiopia) + icipe (Kenya)</td> </tr> <tr> <td>MAK (Uganda)</td> <td>MU (Uganda) + IITA (Kenya)</td> </tr> </tbody> </table>	BSc modules trial-runs done at	Peers involved in trial-runs	2022		UAC (Benin)	UP (Benin) + UI (Nigeria)	MoiU (Kenya)	KU (Kenya) + icipe (Kenya)	UI (Nigeria)	ABU (Nigeria) + UP (Benin)	JU (Ethiopia)	HU (Ethiopia) + SUN (SA)	MU (Uganda)	MAK (Uganda) + IITA (Kenya)	2023		UP (Benin)	UAC (Benin) + UCA (France)	ABU (Nigeria)	UAC (Benin) + UI (Nigeria)	KU (Kenya)	Moi (Kenya) + MU (Uganda)	HU (Ethiopia)	JU (Ethiopia) + icipe (Kenya)	MAK (Uganda)	MU (Uganda) + IITA (Kenya)
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KU (Kenya)	Moi (Kenya) + MU (Uganda)																											
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MAK (Uganda)	MU (Uganda) + IITA (Kenya)																											
	Due date	<p>Trial-runs 1: Sep-Oct-Nov 2022 Feedback report PM: Feb 2023 Trial-runs 2: Sep-Oct 2023 Feedback report PM: Nov 2023</p>																										
	Languages	English																										
Target groups	<input checked="" type="checkbox"/> Teaching staff <input checked="" type="checkbox"/> Students <input type="checkbox"/> Trainees <input type="checkbox"/> Administrative staff <input type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input checked="" type="checkbox"/> Other <p><i>Staff from private and public sector should be included in the trial-runs, so they can assess whether the course unit prepares BSc students for jobs</i></p>																											
Dissemination level	<input checked="" type="checkbox"/> Department / Faculty <input type="checkbox"/> Local <input checked="" type="checkbox"/> National <input checked="" type="checkbox"/> Institution <input type="checkbox"/> Regional <input checked="" type="checkbox"/> International																											

Expected Deliverable/Results/Outcomes	Work Package and Outcome ref.nr	3.3.
	Title	Academic quality control to assess and remediate the quality of the developed BSc modules and lecturing material after trial-run at all SSA partner HEIs (except South Africa)

	Type	<input type="checkbox"/> Teaching material <input type="checkbox"/> Learning material <input type="checkbox"/> Training material	<input type="checkbox"/> Event <input checked="" type="checkbox"/> Report <input type="checkbox"/> Service/Product
	Description	<p>The trial-runs of the BSc module take place in autumn 2022 and 2023 at all SSA partners (5 per year in each country), except for South Africa. In every trial-run a maximum of 15 students can participate. We aim to assess the quality of the developed modules and supporting lecturing material by:</p> <ul style="list-style-type: none"> • Learning curve tests: All students attending the several trial-runs of the BSc modules, will be assessed on their nematological knowledge before and after following the course in order to evaluate their progress in the field of nematology. • Online student evaluation to assess the lectures, developed course material, available facilities. • Online lecturing staff feedback surveys to assess the developed course material. • Peer evaluation of the 1-week practical part of the BSc modules in nematology: 1 from partner HEI in same country, 1 from other Consortium partner from a different country. They provide a feedback report to the PM. • The PM annually collects all feedback from the evaluators and make a report that will be presented to the NEMEDUSSA Consortium. <p>All this information will allow us to evaluate the delivered material, set up remediation plans and improve the quality. By doing the trial-runs twice in the duration of the project, it allows us to improve the modules twice, so that a final BSc modules can be published on the NDLP for partners and other interested universities to boost existing modules or implement a BSc modules in nematology.</p> <p>Based on the annual feedback report provided after the trial-runs the course material will be updated, and a remediation plan will be developed every year to improve the modules' teaching and learning material or any other shortcomings (including NDLP, WP5.2). It will be presented and discussed during the Intermediate 2 and the Closing Meetings with a presentation during the 2023 PANEMA Workshop (WP1.6, 1.7 and 5.1).</p>	
	Due date	<ul style="list-style-type: none"> • Evaluation material discussed during Intermediate 1 Meeting and ready by Jul 2022 • Trial-run BSc module 2022: feedback report, discussion by Feb 2023 – remediation by Mar 2023 • Trial-run BSc module 2023: feedback report, discussion by Nov 2023 – final remediation by Dec 2023 • Presentation of BSc modules on NEMEDUSSA Closing Meeting and PANEMA Workshop: Nov 2023 • Final publication of BSc module package on NDLP by Dec 2023 	
	Languages	English, French	
Target groups	<input checked="" type="checkbox"/> Teaching staff <input checked="" type="checkbox"/> Students <input type="checkbox"/> Trainees <input type="checkbox"/> Administrative staff <input checked="" type="checkbox"/> Technical staff		

	<input type="checkbox"/> Librarians <input type="checkbox"/> Other <i>If you selected 'Other', please identify these target groups. (Max. 250 words)</i>
Dissemination level	<input checked="" type="checkbox"/> Department / Faculty <input type="checkbox"/> Local <input checked="" type="checkbox"/> National <input checked="" type="checkbox"/> Institution <input type="checkbox"/> Regional <input checked="" type="checkbox"/> International

Expected Deliverable/Results/Outcomes	Work Package and Outcome ref.nr	3.4.	
	Title	Validation, implementation and integration of the BSc modules in curricula at all partner universities	
	Type	<input checked="" type="checkbox"/> Teaching material <input checked="" type="checkbox"/> Learning material <input checked="" type="checkbox"/> Training material	<input type="checkbox"/> Event <input type="checkbox"/> Report <input type="checkbox"/> Service/Product
	Description	After validation of the BSc modules during the NEMEDUSSA Closing Meeting, every partner HEI will do the necessary curriculum changes, including accreditation, to incorporate the BSc module as a compulsory course in relevant existing BSc programmes (biology, agriculture, environmental sciences).	
	Due date	Jan 2024	
	Languages	English, French	
Target groups	<input checked="" type="checkbox"/> Teaching staff <input checked="" type="checkbox"/> Students <input type="checkbox"/> Trainees <input checked="" type="checkbox"/> Administrative staff <input checked="" type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input type="checkbox"/> Other		
	<i>If you selected 'Other', please identify these target groups. (Max. 250 words)</i>		
Dissemination level	<input checked="" type="checkbox"/> Department / Faculty <input type="checkbox"/> Local <input type="checkbox"/> National <input checked="" type="checkbox"/> Institution <input type="checkbox"/> Regional <input checked="" type="checkbox"/> International		

Work package type and ref.nr	DEVELOPMENT	4
Title	MSc level development : Building nematological capacity in SSA through MSc modules	
Related assumptions and risks	<p>Related assumptions:</p> <ul style="list-style-type: none"> • Although they have a huge impact on crop yields, nematodes are commonly overlooked organisms in crop protection when compared with for example to fungi or insects. This results in low awareness of nematodes as plant pests, as biocontrol agents or bio-indicators for environmental health (soil and water). • There is insufficient education in nematology on MSc level in SSA. • A full MSc programme in nematology, such as the International MSc in Agro- and Environmental Nematology (IMaNema) at UGent is most likely not sustainable. • IMaNema has all course material available, only adjustments/revisions need to be made according to the local context. • Staff is trained and facilities are upgraded (WP2.1, 2.2 and 2.3). • In order to promote the field of nematology research with students, to prepare them for a possible career as a nematologist, and to improve the awareness of nematodes, a more comprehensive education at MSc level is required. In this stage, the partners have chosen to develop a MSc level module to be integrated in the curriculum of existing MSc programmes with focus on, amongst others, plant health, biology and crop protection. Accordingly, students will be better prepared for a research topic and/or further training in nematology on PhD level. • A comprehensive nematology module is already introduced at Moi University through the VLIR-UOS TEAM project, the first edition will start in September 2020. • UP and UAC (Benin) will include a joint nematology module in the 2nd year of their MSc programmes (MSc in Plant Production and MSc in Crop Protection, respectively). <p>Potential risks:</p> <ul style="list-style-type: none"> • The curriculum changes of the MSc in Plant Pathology at MoiU still need to be approved at the Deans Committee and Senate on the 25th February, 2020 and 14th March 2020 and 14th March 2020, before submission to the Commission for University Education (CUE) later in March. • For UP and UAC (Benin), a curriculum review and subsequent approval is only possible in 2021. 	
Description	This WP focuses on nematological capacity building on MSc level. This will start from the new nematology module at MoiU. This module will be further developed and also implemented in Benin, followed by trail-runs. The feasibility and necessity to integrate this MSc nematology module at other SSA partner HEIs will be analysed.	
Tasks	<ul style="list-style-type: none"> • Evaluate and review the new nematology module (starting September 2020) within the existing MSc programme in Plant Pathology at Moi University (Kenya) and which is based on the IMaNema programme at UGent. • Further develop and adapt MoiU's MSc module. This module will serve as model that can be integrated into other existing MSc programme as a major. • Revise and adapt UGent/MoiU course material, develop webinars and a handbook for practicals for lecturers with attention for good practices and evaluation methods. • Development of a French translation of the material. • Within this module, develop possibilities for internships and thesis work on nematology provided by all partnering HEIs and Associated Partners, to get aligned with current research topics and to have access to the job market and networking. • Integrate this module in respectively the MSc in the Plant Production and MSc in Crop Protection of UP and UAC (Benin). Because the modules will be given by lecturers from both universities, specific tools for multi-location learning/webinars will be developed. • Second evaluation of adjusted module at Moi University. • Trial-run of the module at UP and UAC (Benin). • Quality control by: 	

	<ul style="list-style-type: none"> • Evaluation of developed course material by lecturers and students • Students learning curve test • Student online evaluation system to assess the MSc module • Interview by staff IITA/icipe to students/staff as informal feedback, followed by report • Online exam developed by UGent and UCA, next to the local evaluation. Students who pass this exam will obtain an endorsed NEMEDUSSA quality label • Explore the possibilities to upgrade the NEMEDUSSA quality label to an inter-university certificate <ul style="list-style-type: none"> • Reporting of results during NEMEDUSSA Closing Meeting. 		
Estimated Start Date (dd-mm-yyyy)	15-01-2021	Estimated End Date (dd-mm-yyyy)	15-01-2024
Lead Organisation	WP leader: MoiU WP coleaders: UP and UAC		
Participating Organisation	HU, MU, SUN, IITA, icipe, UCA and UGent.		
Costs <i>Please explain the necessary costs for this WP: What travels are necessary? If equipment is requested, explain why it is required. If subcontracting is necessary, explain why the task cannot be performed by the partner.</i>	<p>Staff time for partners for the revision of the MSc module of MoiU, development and introduction of new contents into improved module, technical approval, editing and proof reading all materials.</p> <p>Staff time for organising the trial-runs.</p> <p>Travel costs for the attendance of partners to trial-runs of the modules.</p> <p>Subcontracting to support UCA on the translation and adaption of modules into French.</p>		

Deliverables/results/outcomes

Expected Deliverable/Results/Outcomes	Work Package and Outcome ref.nr	4.1.	
	Title	Assess the MoiU's MSc module and its integration in other existing MSc programmes	
	Type	<input checked="" type="checkbox"/> Teaching material <input checked="" type="checkbox"/> Learning material <input checked="" type="checkbox"/> Training material	<input type="checkbox"/> Event <input type="checkbox"/> Report <input type="checkbox"/> Service/Product
	Description	<p>Within the frame of the VLIR-UOS TEAM project at Moi University, a nematology MSc module was integrated in the curriculum of the existing MoiU's MSc in Plant Pathology, which will run its first edition in September 2020. During the NEMEDUSSA Kick Off Meeting, the resulting experiences, evaluation and feedback will be presented and discussed with all partners. Subsequently, partners involved in WP4 will draft and propose actions for remediation and necessary adjustments in a separate workshop. The outcome will be presented to the Consortium. Additionally, professional internships and topics for master theses will be included, in order to align the developed MSc module with the needs of the job market and up-to-date research topics.</p>	
	Due date	Feb 2021	
	Languages	English	

Target groups	<input checked="" type="checkbox"/> Teaching staff <input type="checkbox"/> Students <input type="checkbox"/> Trainees <input type="checkbox"/> Administrative staff <input type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input type="checkbox"/> Other		
	<i>If you selected 'Other', please identify these target groups. (Max. 250 words)</i>		
Dissemination level	<input type="checkbox"/> Department / Faculty <input checked="" type="checkbox"/> Institution	<input type="checkbox"/> Local <input type="checkbox"/> Regional	<input type="checkbox"/> National <input type="checkbox"/> International

Expected Deliverable/Results/Outcomes	Work Package and Outcome ref.nr	4.2.	
	Title	Revise and remediate lecture material for MSc module	
	Type	<input checked="" type="checkbox"/> Teaching material <input checked="" type="checkbox"/> Learning material <input checked="" type="checkbox"/> Training material	<input type="checkbox"/> Event <input type="checkbox"/> Report <input checked="" type="checkbox"/> Service/Product
	Description	Following the remediation measures resulting from the NEMEDUSSA Kick Off Meeting, the lecturing material and syllabi used during the first edition at MoiU will be revised and combined with adapted material from IManema. Additional webinars and a handbook for lecturers, including good practices and evaluation methods, will be created. This material will be made available as a package on the NDLP and a French translation will be made.	
	Due date	Aug 2021 – French translation by Aug 2022	
	Languages	English, French	
Target groups	<input checked="" type="checkbox"/> Teaching staff <input checked="" type="checkbox"/> Students <input type="checkbox"/> Trainees <input type="checkbox"/> Administrative staff <input type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input type="checkbox"/> Other		
	<i>If you selected 'Other', please identify these target groups. (Max. 250 words)</i>		
Dissemination level	<input checked="" type="checkbox"/> Department / Faculty <input type="checkbox"/> Institution	<input type="checkbox"/> Local <input type="checkbox"/> Regional	<input type="checkbox"/> National <input checked="" type="checkbox"/> International

Expected Deliverable/Results/Outcomes	Work Package and Outcome ref.nr	4.3.	
	Title	Develop evaluation material for MSc module	
	Type	<input checked="" type="checkbox"/> Teaching material <input checked="" type="checkbox"/> Learning material <input checked="" type="checkbox"/> Training material	<input type="checkbox"/> Event <input type="checkbox"/> Report <input checked="" type="checkbox"/> Service/Product
	Description	UGent, assisted by the PM, will further develop: <ul style="list-style-type: none"> • Online surveys to evaluate the developed course material by lecturers and students. • A students learning curve test (improved after first edition 2020 in frame of the existing VLIR-UOS project with MoiU). 	

		<ul style="list-style-type: none"> Introduce online evaluation system that students will use to assess the MSc module. This tool will implemented in MoiU (Kenya) and UP and UAC (Benin) and serve as an example to be adopted by other partner HEIs. An online exam developed by UGent to assess students on the acquired knowledge during the MSc module in nematology. Students who pass this exam will obtain an endorsed NEMEDUSSA quality label.
	Due date	Aug 2021: for trial-run MoiU Aug 2022: for trial-run Benin
	Languages	English, French
Target groups	<input checked="" type="checkbox"/> Teaching staff <input checked="" type="checkbox"/> Students <input type="checkbox"/> Trainees <input checked="" type="checkbox"/> Administrative staff <input type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input type="checkbox"/> Other	
	<i>If you selected 'Other', please identify these target groups. (Max. 250 words)</i>	
Dissemination level	<input checked="" type="checkbox"/> Department / Faculty <input type="checkbox"/> Local <input type="checkbox"/> National <input checked="" type="checkbox"/> Institution <input type="checkbox"/> Regional <input checked="" type="checkbox"/> International	

Expected Deliverable/Results/Outcomes	Work Package and Outcome ref.nr	4.4.	
	Title	Implementing and testing the remediated nematology MSc module in curriculum of MSc in Plant Pathology at MoiU	
	Type	<input checked="" type="checkbox"/> Teaching material <input checked="" type="checkbox"/> Learning material <input checked="" type="checkbox"/> Training material	<input type="checkbox"/> Event <input type="checkbox"/> Report <input checked="" type="checkbox"/> Service/Product
	Description	<p>The revised edition of the MSc module at MoiU, including the developed course material, proposed master thesis subjects and professional internships, will be tested in September 2021. This will serve as a trial-run which will include:</p> <ul style="list-style-type: none"> Evaluation of developed course material by lecturers and students. Students learning curve test. Implementation of a student online evaluation system to assess the MSc module. Online exam developed by UGent, next to the local evaluation. Students who pass this exam can get an endorsed NEMEDUSSA quality label. Interview of Kenya students/staff by IITA/icipe to obtain informal feedback. <p>The PM will collect all results and feedback of this trial-run and a report will be presented and discussed during the Intermediate 1 Meeting.</p>	
	Due date	Aug 2021: programme changes Sep 2021: trial-run + evaluation Feb 2022: report PM	
	Languages	English	
Target groups	<input checked="" type="checkbox"/> Teaching staff <input checked="" type="checkbox"/> Students		

	<input type="checkbox"/> Trainees <input checked="" type="checkbox"/> Administrative staff <input checked="" type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input type="checkbox"/> Other
	<i>If you selected 'Other', please identify these target groups. (Max. 250 words)</i>
Dissemination level	<input checked="" type="checkbox"/> Department / Faculty <input type="checkbox"/> Local <input type="checkbox"/> National <input checked="" type="checkbox"/> Institution <input type="checkbox"/> Regional <input type="checkbox"/> International

Expected Deliverable/Results/Outcomes	Work Package and Outcome ref.nr	4.5.	
	Title	Integration of the MSc module in nematology in the curricula of the MSc in Plant Production at UP and the MSc in Crop Protection at UAC (Benin), and trial-runs	
	Type	<input checked="" type="checkbox"/> Teaching material <input checked="" type="checkbox"/> Learning material <input checked="" type="checkbox"/> Training material	<input type="checkbox"/> Event <input type="checkbox"/> Report <input checked="" type="checkbox"/> Service/Product
	Description	<p>The MSc module will be integrated in the curricula of the existing MSc programmes, MSc in Plant Production and MSc in Crop Protection at the UP and UAC respectively, hereby integrating the developed course material, proposed master thesis subjects and professional internships. This new module will serve as a trial-run, which will include:</p> <ul style="list-style-type: none"> • Evaluation of developed course material by lecturers and students • Students learning curve test • Implementation of a student online evaluation system to assess the MSc module • Online exam developed by UGent, next to the local evaluation. Students who pass this exam can get an endorsed NEMEDUSSA quality label. • Participating students/staff will be interviewed by staff IITA Kenya/Nigeria and UCA to obtain informal feedback after the trial-run • 1 staff member from UCA will attend the trial-runs at UP or UAC during 7 days • The PM will prepare a report that includes the results of this trial-run, and this will be presented on the Intermediate 2 Meeting to discuss the way forward. <p>We define a module equal to the terminology 'Course' used in the EForm of this project proposal. NEMEDUSSA will develop 17 modules, 1 BSc module in each of the 12 SSA HEIs (WP3), and 5 MSc modules at MoiU, UP, UAC, SUN and NWU (WP4). The MSc modules are developed jointly by the Benin partners, based on the existing MSc module at MoiU, and will be incorporated also at SUN and NWU.</p>	
	Due date	Integration in MSc programmes by Aug 2022 Trial-run and evaluation: Jan 2023 Report PM: Feb 2023	
	Languages	English, French	
Target groups	<input checked="" type="checkbox"/> Teaching staff <input checked="" type="checkbox"/> Students		

	<input type="checkbox"/> Trainees <input checked="" type="checkbox"/> Administrative staff <input checked="" type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input type="checkbox"/> Other
	<i>If you selected 'Other', please identify these target groups. (Max. 250 words)</i>
Dissemination level	<input checked="" type="checkbox"/> Department / Faculty <input type="checkbox"/> Local <input type="checkbox"/> National <input type="checkbox"/> Institution <input type="checkbox"/> Regional <input type="checkbox"/> International

Expected Deliverable/Results/Outcomes	Work Package and Outcome ref.nr	4.6.	
	Title	Academic quality control to assess the quality of the developed MSc module and lecturing material after trial-run at MoiU, UP and UAC	
	Type	<input type="checkbox"/> Teaching material <input type="checkbox"/> Learning material <input type="checkbox"/> Training material	<input type="checkbox"/> Event <input checked="" type="checkbox"/> Report <input checked="" type="checkbox"/> Service/Product
	Description	<ul style="list-style-type: none"> • Learning curve tests: the progress of all students attending the several trial-runs of the MSc module will be evaluated by assessing their nematological knowledge before and after following the module. • Online evaluation for students to assess the lectures, developed course material, and available facilities. • Online lecturing staff feedback survey to assess the developed course material. • Peer evaluation of participating students/staff through interviews by staff of IITA and icipe Kenya, IITA Nigeria, and UCA. <p>All this information will be collected by the PM to prepare a report that will be presented on the Intermediate 2 Meeting. This will allow an improvement of the quality of the used material and a remediation of the followed producers. Subsequently, the final MSc module will be published on the NDLP for partners and other interested universities to enhance existing or implement an MSc module in nematology. The final package and good practices will be shared during the NEMEDUSSA Closing Meeting and PANEMA Workshop in 2023.</p>	
	Due date	Evaluation material MoiU: Aug 2021 Evaluation material Benin: Aug 2022 Feedback report MoiU: Feb 2022 Feedback report Benin: Feb 2023 Presentation results on PANEMA conference: Nov 2023 Final course material on NDLP: Dec 2023	
	Languages	English, French	
Target groups	<input checked="" type="checkbox"/> Teaching staff <input checked="" type="checkbox"/> Students <input type="checkbox"/> Trainees <input checked="" type="checkbox"/> Administrative staff <input checked="" type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input type="checkbox"/> Other		

	<i>If you selected 'Other', please identify these target groups. (Max. 250 words)</i>		
Dissemination level	<input checked="" type="checkbox"/> Department / Faculty <input checked="" type="checkbox"/> Institution	<input type="checkbox"/> Local <input type="checkbox"/> Regional	<input checked="" type="checkbox"/> National <input checked="" type="checkbox"/> International

Expected Deliverable/Results/Outcomes	Work Package and Outcome ref.nr	4.7.	
	Title	Validation of the MSc module by NEC and discussion on integration of MSc module in curricula at other partner universities	
	Type	<input type="checkbox"/> Teaching material <input type="checkbox"/> Learning material <input type="checkbox"/> Training material	<input type="checkbox"/> Event <input checked="" type="checkbox"/> Report <input type="checkbox"/> Service/Product
	Description	The results of the 2 trial-runs in Kenya and Benin will be presented and evaluated at the Intermediate 1 and 2 Meetings. A comprehensive analyses of all obtained data and experiences will result in a clear understanding of the feasibility and necessity of integrating an MSc module at other SSA partner HEIs. The results will also be presented during the NEMEDUSSA Closing Meeting and PANEMA Workshop 2023. The NEMEDUSSA Educational Committee will validate the MSc module.	
	Due date	Validation MSc module: Jan 2024	
	Languages	English	
Target groups	<input checked="" type="checkbox"/> Teaching staff <input checked="" type="checkbox"/> Students <input type="checkbox"/> Trainees <input checked="" type="checkbox"/> Administrative staff <input checked="" type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input type="checkbox"/> Other		
	<i>If you selected 'Other', please identify these target groups. (Max. 250 words)</i>		
Dissemination level	<input checked="" type="checkbox"/> Department / Faculty <input checked="" type="checkbox"/> Institution	<input checked="" type="checkbox"/> Local <input type="checkbox"/> Regional	<input checked="" type="checkbox"/> National <input checked="" type="checkbox"/> International

Work package type and ref.nr	DEVELOPMENT	5
Title	General development: Establishing the Pan-African Nematology Network (PANEMA) for dissemination and collaboration	
Related assumptions and risks	<p>Related assumptions:</p> <ul style="list-style-type: none"> • Research conducted by Cortada et al. (2019) and the feedback received by the Consortium partners during the NEMEDUSSA Project Brainstorm Meeting (June 2019, Kenya) highlighted the fact that nematologists in SSA often work in isolation and that there is an urgent need to strengthen collaboration, both within and outside the continent, to advance on the learning, dissemination and on the research component of this discipline. Hence, promoting a fruitful networking and collaboration, both through physical interaction as well as through IT technologies, was considered as a priority outcome among the African universities and the participant institutions. • Lecturers and researchers need to upgrade their knowledge and explore new scientific and educational innovations in order to increase the quality of nematology training. The NEMEDUSSA partners indicated the need to establish a network, that goes beyond a nematological society, focusing on education, to facilitate lifelong learning and promote the exchange of good practices in education through physical workshops. • To ensure a healthy cohort of young women and men nematologists to secure the future of this discipline in SSA, it is important to integrate them early in the process of creating a network. An intergenerational and gender-balanced approach within the network will be promoted, where senior nematologists and younger researchers/lecturers shall form the core of the advisory/coordination. • To consolidate and improve knowledge of nematology in SSA, access to up-to-date and multimedia didactic materials is paramount, and digital platforms can help to reach a large audience. Currently, information regarding nematology in SSA is scarce, or it is very dispersed/fragmented, or only available in English; therefore the centralisation and elaboration of new on-line training materials in English and/or French (i.e. lectures, practical sessions, videos) in open access would facilitate knowledge transfer. This would allow equal access of women and men, and could stimulate free and self-paced learning. <p>Related risks:</p> <ul style="list-style-type: none"> • <i>Low risk:</i> Low participation of NEMEDUSSA partners and other experts during the PANEMA Workshops. In order to maximise the presence of regional/international experts and minimise costs associated with the project, these Workshops will be organised back-to-back to other events. • <i>Low risk:</i> Overlapping of the Workshop activities with those of other SSA societies, such as the Nematological Society of South Africa (NSSA) and the Nigerian Society of Nematologists (NISON), especially related to conferences/symposia. Therefore, the experts' network will focus mostly on education and lifelong learning and the promotion of the work of young African nematologists. To maximise coordination of events with these 2 already existing societies, board members of these 2 societies are included in the NEMEDUSSA project, making the nematology network more efficient. • <i>Low risk:</i> Discontinuation of the nematology digital learning platform (NDLP) after the termination of the project. Currently, the NDLP is already hosted at the servers of UGent at no cost, through its linkages with IMaNema. • <i>High risk:</i> Discontinuation of PANEMA after the termination of the project. Therefore it is important to have a specific POC (WP1.2), mainly composed of the representatives of academic and non-academic partners, and the private sector that can work independently on this platform, beyond the termination of the project. Further to this, the alliance within NEMEDUSSA with members of experienced and long-standing Nematological Societies should guide PANEMA towards sustainable financing, through self-sponsoring (membership fees) and sponsors support, by the end of this project. 	

Description	<p>This WP focuses on promoting networking and academic exchange between HEIs, but also between African and European collaborators, including public and private institutions in the region, through physical meetings and an online platform.</p> <ul style="list-style-type: none"> • Establishment of a Pan-African Nematology Network (PANEMA): By strengthening knowledge exchange and collaboration among all the above-mentioned stakeholders through NEMEDUSSA, participant institutions will be able to benefit from additional exchange programmes of students, additional learning opportunities and/or the development of joint research and educational projects. In 2 dedicated PANEMA Workshops, participants from SSA and invited experts will discuss innovative e-learning resources and good training practices. These Workshops are meant for NEMEDUSSA participants and staff/students from public/private sector and will further disseminate the results of NEMEDUSSA. PANEMA will also increase the visibility of the participant institutions in SSA as centres of excellence for nematology training in the region. • Promote the Nematology Digital Learning Platform (NDLP), as a global training resource for nematology in open access; the final objective is to use the NDLP to create an online network for e-learning with the support of HEIs and collaborators. 		
Tasks	<ul style="list-style-type: none"> • PANEMA Organising Committee (POC) meetings: <ul style="list-style-type: none"> - 4 physical meetings (back-to-back to the NEMEDUSSA Kick Off, Intermediate 1 and 2, and Closing Meetings) with all the members of the POC, between Jan 2021 and Nov 2023. - 6 online meetings (every 6 months) between Jan 2021 and Nov 2023. • 2 educational Workshops (6 days) in May 2022 and November 2023 for collaborators and selected regional stakeholders to promote networking, create awareness and visibility of the outcomes of the project, and to enhance knowledge exchange and capacity of NEMEDUSSA partners (WP 5.1). • Developing one sustainability plan for the organisation of activities after the NEMEDUSSA project, including the establishment of a trust that can become financially sustainable, either through sponsors and/or membership fees. • Deliver monthly active contributions through, at least, 2 social media platforms (Facebook and/or Twitter) in English and French, in close coordination with WP7 (dissemination and exploitation). • Create one electronic annual PANEMA Newsletter that shall be populated with outputs from the project information and collaborating partners. This will be distributed through social media platforms in close coordination with WP7, to ensure effective dissemination and exploitation. • Introduce innovative e-learning tools in English and French through an existing Nematology Digital Learning Platform (NDLP) (WP5.2). • Promote any other actions aimed at improving and expanding the networking & collaboration between SSA nematologists, with special attention to young researchers. 		
Estimated Start Date (dd-mm-yyyy)	15-01-2021	Estimated End Date (dd-mm-yyyy)	15-01-2024
Lead Organisation	WP leader: NWU WP coleaders: UI, MU		
Participating Organisation	All programme country partners (2), and all HEI and non-academic partner country partners (2)		
Costs <i>Please explain the necessary costs for this WP: What travels are necessary? If equipment is requested, explain why it is required. If subcontracting is necessary, explain why the task cannot be</i>	<p>Staff costs for the leader and coleader.</p> <p>Direct subcontracting costs associated to the organisation of the PANEMA workshops: operational costs (printing of education materials, flipcharts, pens, notebooks, internet connection), consumables for de practical sessions, renting a bus for the field visits.</p> <p>Travel costs linked to the participation of external experts (invited guests) to deliver lectures, seminars or practical sessions during the PANEMA Workshops.</p>		

<i>performed by the partner.</i>	
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Deliverables/results/outcomes

Expected Deliverable/Results/Outcomes	Work Package and Outcome ref.nr	5.1.	
	Title	Organisation and execution of the PANEMA Workshops	
	Type	<input type="checkbox"/> Teaching material <input type="checkbox"/> Learning material <input type="checkbox"/> Training material	<input checked="" type="checkbox"/> Event <input type="checkbox"/> Report <input checked="" type="checkbox"/> Service/Product
	Description	<p>2 PANEMA Workshops (6 days each) to strengthen regional networking with focus on lifelong learning for nematology in Africa to be held in May 2022 , back-to-back with the Nematology Society of Southern Africa Congress (SA) and in November 2023, before the NEMEDUSSA Closing Meeting (WP1.7). A total of 2 attendants for each of the participating institutions and collaborators will be supported by NEMEDUSSA. Additional participants will be sponsored by UGent (up to 5 more) and other private institutions.</p> <p>Proceedings, including contents of lectures and practical sessions; report of each meeting published on the NDLP, and highlights of the Workshops in the annual PANEMA Newsletter and social media platforms.</p>	
	Due date	Workshop 1: May 2022 Workshop 2: Nov 2023	
	Languages	English	
Target groups	<input checked="" type="checkbox"/> Teaching staff <input checked="" type="checkbox"/> Students <input checked="" type="checkbox"/> Trainees <input type="checkbox"/> Administrative staff <input checked="" type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input checked="" type="checkbox"/> Other		
	<i>private/public sector/industry</i>		
Dissemination level	<input checked="" type="checkbox"/> Department / Faculty <input checked="" type="checkbox"/> Institution	<input checked="" type="checkbox"/> Local <input checked="" type="checkbox"/> Regional	<input checked="" type="checkbox"/> National <input checked="" type="checkbox"/> International

Expected Deliverable/Results/Outcomes	Work Package and Outcome ref.nr	5.2.	
	Title	Further development of Nematology Digital Learning Platform (NDLP) and consolidation of the NDLP as a global e-learning resource for nematology	
	Type	<input checked="" type="checkbox"/> Teaching material <input type="checkbox"/> Learning material <input type="checkbox"/> Training material	<input type="checkbox"/> Event <input type="checkbox"/> Report <input checked="" type="checkbox"/> Service/Product
	Description	Consolidate the already existing NDLP as an e-learning open-access platform to support the capacity building process of staff in HEIs and collaborators, and raise public awareness by:	

		<ul style="list-style-type: none"> • Making educational materials, developed together with SSA universities under WP3 and WP4, available in open access via the NDLP. This includes course material, webinars and other information to support innovative learning techniques, such as blended learning and flipped classrooms. • 12 webinars per year (at least, 1 webinar/partner/year) hosted at the NDLP, to support additional staff training, such as <ul style="list-style-type: none"> - guidelines for staff for BSc and MSc course units developed in WP3 and WP4. - webinar on data-mining with exercises and final online exam that can lead to an endorsed NEMEDUSSA quality label. • Utilisation of the NDLP to promote and disseminate activities of PANEMA, to improve networking and collaboration in the SSA region and with partners in the EU. • Announcing through the NDLP internships, MSc, PhD and/or employment opportunities and other activities relevant for nematology in SSA and EU.
	Due date	Jan 2024
	Languages	English and French
Target groups	<input checked="" type="checkbox"/> Teaching staff <input checked="" type="checkbox"/> Students <input checked="" type="checkbox"/> Trainees <input type="checkbox"/> Administrative staff <input checked="" type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input checked="" type="checkbox"/> Other	
	<i>The NDLP will be available for everybody who registers and receives approval for "membership"</i>	
Dissemination level	<input checked="" type="checkbox"/> Department / Faculty <input checked="" type="checkbox"/> Institution	<input checked="" type="checkbox"/> Local <input checked="" type="checkbox"/> Regional <input checked="" type="checkbox"/> National <input checked="" type="checkbox"/> International

Work package type and ref.nr	Quality Plan		6
Title	Monitoring and evaluation plan for quality control of the project		
Related assumptions and risks	<p>Related assumptions:</p> <ul style="list-style-type: none"> All Consortium partners will remain in the project until its termination and are committed to do their utmost best to perform the intended activities in this project and strive to reach the intended outcomes. Optimal coordination will be achieved through the establishment of open and regular communication channels; this will be further supported by the envisaged NEMEDUSSA management structure that will have an inclusive representation of both programme and partner countries and other collaborators, including external advisors. <p>Potential risks:</p> <ul style="list-style-type: none"> <u>Low Risk</u>: Non-optimal use of resources and not reaching the outcomes (in time). To mitigate this risk, the Project Manager (PM) will conduct regular skype calls with all WP leaders to assess progress and address any potential deviations from the work plans. Further guidance will be ensured through the external advisors regarding the evolution of the project <i>vis a vis</i> with the intended targets through on-line meetings held every 4 months. <u>Low Risk</u>: Situations of civil unrest or insecurity in the selected countries where activities will take place, that may hamper implementation of activities. In case where security issues may arise, the project will seek to temporarily transfer outputs/activities to other partners/areas until security is reinstated. 		
Description	<p>The quality monitoring mechanisms in this projects occur internally towards the NEMEDUSSA Consortium where the PM plays a crucial role to collect reports from different WP leaders and partners, and externally via</p> <ul style="list-style-type: none"> - external advisors who continuously advise to the Consortium and - by external auditors at the end of the project to evaluate if all the outcomes were achieved and finances are according to the regulations. 		
Tasks	<p>Monitoring plan on 5 levels to assure the timely execution and quality of planned activities, and the adequate and correct use of budget. This is coordinated by the PM.</p> <ul style="list-style-type: none"> Self-evaluation reports (SER) per WP per activity year, written by the WP leaders Creation of a Monitoring & Evaluation (M&E) Matrix based on the Logical Framework Matrix of this project application 3 external project advisors with extensive nematological expertise in the region Financial control of all financial expenses by UGent PM and the Financial Department of UGent, experienced in Erasmus+ projects External audit at the end of the project 		
Estimated Start Date (dd-mm-yyyy)	15-01-2021	Estimated End Date (dd-mm-yyyy)	15-01-2024
Lead Organisation	WP leader: UGent		
Participating Organisation	All programme country partners (2), and all HEI and non-academic partner country partners (2)		
Costs <i>Please explain the necessary costs for this WP: What travels are necessary? If equipment is requested, explain why</i>	<p>Staff cost of UGent PM and WP (co)leaders related to quality plan and reporting</p> <p>Subcontracting costs for travel of external advisors</p> <p>The external audit is included in the subcontracting costs and estimated at 10,000 euro, based on previous experience of Ghent University.</p>		

<i>it is required. If subcontracting is necessary, explain why the task cannot be performed by the partner.</i>	
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Deliverables/results/outcomes

Expected Deliverable/Results/Outcomes	Work Package and Outcome ref.nr	6.1.	
	Title	Quality Plan of the project activities on 5 levels	
	Type	<input type="checkbox"/> Teaching material <input type="checkbox"/> Learning material <input type="checkbox"/> Training material	<input type="checkbox"/> Event <input checked="" type="checkbox"/> Report <input type="checkbox"/> Service/Product
	Description	<p>Quality Plan on 5 levels to assure the timely execution and quality of planned activities, and the adequate and correct use of budget. The UGent PM is responsible to coordinate the monitoring.</p> <ol style="list-style-type: none"> 1. Creation of Monitoring & Evaluation (M&E) Matrix based on the Logical Framework Matrix of this project proposal: to be filled in regularly by PM based on the NEMEDUSSA SER reports and to be presented and discussed during the NEMEDUSSA Meetings. It allows us to see the delivered work and if outcomes were achieved. 2. Self-evaluation reports (SER) per WP per activity year to be presented to the NEMEDUSSA Consortium. This responsibility lies with the leading partner of the WP. The WP leaders send their SER to the PM, who produces an annual NEMEDUSSA SER. It will allow to assess if the planned activities were executed, how the activities were achieved, what were the pitfalls, the adjustments and solutions needed and what are the good practices. 3. 3 external project advisors (subcontracted) with extensive nematological expertise in the region (Dr. Matthew Back (Harper Adams University, UK), Prof. em. Richard Sikora (University of Bonn, Germany) and dr. Mieke Danneel (Agricultural Research Council, South Africa)) who will act as consultants and revert back to the NEMEDUSSA Consortium as external counsellors. They will be invited to attend every NEMEDUSSA Meetings and PANEMA Workshops, will be given the SERs and M&E Matrix, and are asked to prepare feedback reports. 4. All financial expenses and accounting documents (time sheets staff, mobility proof, invoices material) will be collected/checked by the UGent PM and are consequently controlled by the Financial Department of Ghent University (justification by original expense notes, invoices and vouchers is compulsory). They act as a control mechanism to ensure all financial matter is correct and according to the Belgian and EU regulations. 5. Performance of one external audit: at the end of the project, external auditors will be subcontracted to assess the quality, achievements and finances of the project. They will be provided all the documentation needed and produced by the 	

		project and will result in a final external audit report (audit certificate) that will be sent to the sponsor EACEA.
	Due date	Jan 2024
	Languages	English
Target groups	<input checked="" type="checkbox"/> Teaching staff <input checked="" type="checkbox"/> Students <input type="checkbox"/> Trainees <input type="checkbox"/> Administrative staff <input checked="" type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input type="checkbox"/> Other	
Dissemination level	<input checked="" type="checkbox"/> Department / Faculty <input checked="" type="checkbox"/> Institution	<input type="checkbox"/> Local <input type="checkbox"/> Regional <input checked="" type="checkbox"/> National <input checked="" type="checkbox"/> International

Work package type and ref.nr	DISSEMINATION AND EXPLOITATION	7
Title	Awareness creation of project activities and outcomes	
Related assumptions and risks	<p>Related assumptions:</p> <ul style="list-style-type: none"> • The Consortium partners indicated that there is a need to enhance awareness among the general public and especially students before they reach university, in order to attract more students to agricultural degrees. The current perception of the youth in SSA is that farming is “for the poor”, which constraints the arrival of new students to the faculties of agriculture and the limited interest in nematology as a soil/plant health discipline. • Low awareness of nematological problems, have been associated with food security and environmental risks, specially in SSA, where farmers try to compensate the low productivity of their crops using chemical fertilisers and pesticides. Therefore, awareness creation on nematology among the general public, including farmers, extension officers, policy makers and private companies can have a positive impact on small-farming systems and in the public and private sector in SSA. • For an optimum and effective dissemination of the information, and in order to reach a wide audience of stakeholders in the participant countries (Benin, Uganda, Ethiopia, Kenya, Nigeria, South Africa, Belgium, France), information has to be provided in local languages, has to be targeted to the end-users and be gender-sensitive. This also encompasses the use of different communication channels and supports (i.e. web, social media, flyers, manuals). <p>Potential risks:</p> <ul style="list-style-type: none"> • <i>Low risk:</i> Discontinuation of the NEMEDUSSA website at the end of the project. To prevent this, the NEMEDUSSA website will be hosted at the servers of UGent, at no cost for the project, similarly to the NDLP (WP5.2). This will ensure visibility and accessibility to the outcomes/results of the project, by the general public, beyond the termination of the project. • <i>High risk:</i> Low interest of the public on the information disseminated. To attract the public we will use visually appealing designs, local languages and gender-sensitive contents (i.e. videos or pictograms for illiterate women farmers in SSA). The project will also endeavour to link up with innovative communication channels, specifically to attract the youth, such as the use of young agricultural champions (i.e. Young Farmers Champion Network in Uganda) and different channels (YouTube, Facebook, WhatsApp). 	
Description	<p>Promotion and awareness of the outcomes of the project will be conducted using two mainstreams:</p> <ul style="list-style-type: none"> - using web-based and multimedia platforms to make information globally accessible; - promotion at grassroot level of the NEMEDUSSA activities and outcomes, through community outreach. <p>This dissemination strategy will entail reaching out to the following groups and their active involvement in our exploitation activities.</p> <ol style="list-style-type: none"> 1. Staff at other HEIs in SSA 2. University students/schools/youth 3. Private sector, GOs and NGOs 4. Policy makers 5. Extension service workers, farmers and farmer’s associations 	
Tasks	<ul style="list-style-type: none"> • Develop strategies towards several target groups to stimulate awareness about nematological problems and solutions and as such promote nematology education and research in which we are aware/sensitive of gender in every event and development of material. 	

	<ul style="list-style-type: none"> • Develop a NEMEDUSSA website with project description to present to the general public the activities and results under the project. It will include relevant reports and promotional material and a linkage to the NDLP. • Organise press releases, interviews, and invite relevant stakeholders to events, increase presence and communication on social media. • Enhance existing and develop new promotional material such as flyers for stakeholders, posters about economically important plant-parasitic nematodes (e.g. root knot-nematode); symptoms and solutions, and testimonial movies of UGent's International MSc in Agro- and Environmental Nematology alumni/nematologists with a successful career/job. • Attract (university) students to nematology by organising open days at HEIs, a student club at each HEI and activities to get students involved in the dissemination of nematology towards youth. • Review and tailor plant clinic/farmer field school's curriculum with emphasis on nematology in each participating country as a service to extension service + promote this material. • Organise Nematology Awareness and Networking Days in each country per year. 		
Estimated Start Date (dd-mm-yyyy)	15-01-2021	Estimated End Date (dd-mm-yyyy)	15-01-2024
Lead Organisation	WP leader: UGent WP coleaders: HU and UAC		
Participating Organisation	All		
Costs <i>Please explain the necessary costs for this WP: What travels are necessary? If equipment is requested, explain why it is required. If subcontracting is necessary, explain why the task cannot be performed by the partner.</i>	<p>Staff cost for all partners for (local) dissemination and exploitation activities.</p> <p>Subcontracting costs for maintenance and development of NEMEDUSSA website and translation of dissemination material to French.</p>		

Deliverables/results/outcomes

Expected Deliverable/Results/Outcomes	Work Package and Outcome ref.nr	7.1.	
	Title	Develop and launch NEMEDUSSA website and press release about start project	
	Type	<input type="checkbox"/> Teaching material <input type="checkbox"/> Learning material <input type="checkbox"/> Training material	<input type="checkbox"/> Event <input type="checkbox"/> Report <input checked="" type="checkbox"/> Service/Product
	Description	<p>The NEMEDUSSA website will include a project description, a project logo, reference to Erasmus+, list of partners, details of the several actions under the project, a link to the Nematology Digital Learning Platform (NDLP). With the launch of the website, a press release will be made published on the website/social media and sent to the communication offices of the partners, Ministries of Education/Agriculture, Nematological Societies and local media. Additionally, The Belgian Directorate General Development Cooperation and VLIR-UOS (University</p>	

		Development Cooperation Division of the Flemish Inter-University Council) will be informed about the project, because this project is a logical continuation/result of their support to the International MSc in Agro- and Environmental Nematology to train people in nematology in the South and collaboration with alumni. To be hosted at UGent server to ensure sustainability of the website and long-term visibility.
	Due date	Launch website and press-release: Feb 2021
	Languages	English, French
Target groups	<input checked="" type="checkbox"/> Teaching staff <input checked="" type="checkbox"/> Students <input type="checkbox"/> Trainees <input checked="" type="checkbox"/> Administrative staff <input checked="" type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input checked="" type="checkbox"/> Other	
	<i>The website and press release aims to reach a very broad public globally, not restricted to the university.</i>	
Dissemination level	<input type="checkbox"/> Department / Faculty <input checked="" type="checkbox"/> Institution	<input checked="" type="checkbox"/> Local <input checked="" type="checkbox"/> Regional <input checked="" type="checkbox"/> National <input checked="" type="checkbox"/> International

Expected Deliverable/Results/ Outcomes	Work Package and Outcome ref.nr	7.2.	
	Title	General dissemination activities	
	Type	<input type="checkbox"/> Teaching material <input type="checkbox"/> Learning material <input type="checkbox"/> Training material	<input checked="" type="checkbox"/> Event <input type="checkbox"/> Report <input checked="" type="checkbox"/> Service/Product
	Description	<p>The NEMEDUSSA PM is responsible for the execution of the general dissemination activities of this project. She/he will:</p> <ul style="list-style-type: none"> • Maintain the NEMEDUSSA website, a place where we can publish results, relevant reports, promotional material, link to NDLP and the announcements of events. This website will be used for dissemination activities at the beginning of the project, during and after. • Organise press releases, project videos with interviews about activities, invite relevant stakeholders to events, increase presence and communication on social media such as Facebook and Twitter. Actions will be towards: local media, the university communication departments, colleagues at other HEIs, Ministries of Education/Agriculture, Nematological Societies and local media. Additionally, The Belgian Directorate General Development Cooperation and VLIR-UOS will be informed about the project, because this project is a logical continuation/result of their support to IManema to train people in nematology in the South and collaboration with alumni. • Dissemination through the PANEMA Workshops (WP5.1) by sharing good practices in nematology education, providing presentations on the activities and outcomes of the nematology BSc and MSc modules and lecturing material developed, promoting the NDLP, organising short trainings. • Final project report: upload the final project results on the Erasmus+ Project Results Platform. The Monitoring & 	

		<p>Evaluation Matrix (WP6) will be important to show the outcomes of the project.</p> <p>Other dissemination activities/results include the involvement of other stakeholders (WP7.2-7.7).</p> <p>Generally:</p> <ul style="list-style-type: none"> • The PANEMA Workshops will be open for all possible stakeholders (membership / registration fee) • Involvement of non-academic partners in the preparation of the NEMEDUSSA project (Project Brainstorm Meeting, 17-18 June 2019), in the NEMEDUSSA Consortium Meetings and the PANEMA Organising Committee, meaning that they will be participating in the decision making process of all WPs in the project such as the development of the curriculum content. • NDLP will have dissemination impact during and after the project because developed (course) material will be and remain available. The NDLP is an open source and freely accessible.
	Due date	General activities: Jan 2024
	Languages	English, French
Target groups	<input checked="" type="checkbox"/> Teaching staff <input checked="" type="checkbox"/> Students <input checked="" type="checkbox"/> Trainees <input checked="" type="checkbox"/> Administrative staff <input checked="" type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input checked="" type="checkbox"/> Other	
	<i>These activities aims to have outreach to stakeholders internationally such as colleagues at other HEIs, research institutes, private/public sector, NGOs, policy makers, farmers and farmer's associations, extension service, Ministries of Education/Agriculture</i>	
Dissemination level	<input checked="" type="checkbox"/> Department / Faculty <input type="checkbox"/> Local <input checked="" type="checkbox"/> National <input type="checkbox"/> Institution <input type="checkbox"/> Regional <input type="checkbox"/> International	

Expected Deliverable/Results/Outcomes	Work Package and Outcome ref.nr	7.3.	
	Title	Dissemination activities on level of staff at other HEIs in SSA	
	Type	<input checked="" type="checkbox"/> Teaching material <input type="checkbox"/> Learning material <input checked="" type="checkbox"/> Training material	<input checked="" type="checkbox"/> Event <input type="checkbox"/> Report <input checked="" type="checkbox"/> Service/Product
	Description	<p>Next to the general dissemination deliverables described in WP7.2, specific activities will be done to create specific outcomes/results towards (university) nematologists/staff at other HEIs in SSA.</p> <ul style="list-style-type: none"> • Invitations to PANEMA Workshops • Newsletters will be sent with information about the NEMEDUSSA activities, with specific focus on the nematology curriculum development activities and the NDLP, but also on the dissemination activities. 	
	Due date	Jan 2024	
	Languages	English	
Target groups	<input checked="" type="checkbox"/> Teaching staff <input type="checkbox"/> Students <input type="checkbox"/> Trainees		

	<input checked="" type="checkbox"/> Administrative staff <input checked="" type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input checked="" type="checkbox"/> Other
	<i>We will not only reach staff from HEIs, but also UGent alumni of IMaNema and nematologists working in other sectors in SSA.</i>
Dissemination level	<input type="checkbox"/> Department / Faculty <input type="checkbox"/> Local <input type="checkbox"/> National <input type="checkbox"/> Institution <input type="checkbox"/> Regional <input checked="" type="checkbox"/> International

Expected Deliverable/Results/Outcomes	Work Package and Outcome ref.nr	7.4.	
	Title	Dissemination activities on level of (university) students	
	Type	<input checked="" type="checkbox"/> Teaching material <input type="checkbox"/> Learning material <input checked="" type="checkbox"/> Training material	<input type="checkbox"/> Event <input type="checkbox"/> Report <input checked="" type="checkbox"/> Service/Product
	Description	<p>Specific activities will be undertaken to create specific outcomes/results and reach towards (university) students, schools and youth.</p> <ul style="list-style-type: none"> • Translation of the existing colouring book "From A to Z, nematodes colour our lives" into French, Amharic, Swahili, Luganda. The book was already published in Dutch, English and Spanish, and aims at creating awareness about nematology to the broad, not scientifically educated, public. The book will be made available on NDLP. • Each HEI will have a university student club with focus on nematology. 4 students of this student club will go 4 times per year to 2 different secondary schools (i.e. 4 per country). They will speak to students about nematodes to create awareness (colouring book Nematodes from A-Z) and set-up a kitchen garden/demo plot in each school. University students become involved and secondary school youngsters get educated and awareness of nematodes. • Annual organisation of an open day at each HEI open for university students and last year secondary school students (15 per school = total 60 students; gender balance) with interest in agriculture. These students get info about nematology and might be attracted to the field. This open day includes: <ul style="list-style-type: none"> • Presentation of diverse field of nematology (Nematodes from A-Z colouring book) • Personal experience from a nematologist • Presentation of nematology curriculum • Possibilities of agribusiness and career opportunities nematology • Lab visit 	
	Due date	For 2022 activities (school visit + open days): Nov 2022 For 2023 activities (school visit + open days): Nov 2023	
	Languages	English	
Target groups	<input type="checkbox"/> Teaching staff <input checked="" type="checkbox"/> Students <input type="checkbox"/> Trainees <input type="checkbox"/> Administrative staff <input type="checkbox"/> Technical staff <input type="checkbox"/> Librarians		

	<input type="checkbox"/> Other
	<i>If you selected 'Other', please identify these target groups. (Max. 250 words)</i>
Dissemination level	<input checked="" type="checkbox"/> Department / Faculty <input checked="" type="checkbox"/> Local <input type="checkbox"/> National <input checked="" type="checkbox"/> Institution <input type="checkbox"/> Regional <input type="checkbox"/> International

Expected Deliverable/Results/ Outcomes	Work Package and Outcome ref.nr	7.5.
	Title	Dissemination activities on level of extension workers/farmers and farmers' associations
	Type	<input checked="" type="checkbox"/> Teaching material <input type="checkbox"/> Event <input type="checkbox"/> Learning material <input type="checkbox"/> Report <input checked="" type="checkbox"/> Training material <input checked="" type="checkbox"/> Service/Product
	Description	<p>Specific activities will be undertaken to create specific outcomes/results and reach towards extension workers/farmers and farmers' associations.</p> <p>Curriculum review with focus on nematology content of existing Farmer Field Schools (FFS) and Plant Clinics from organisations such as National Plant Protection Organisations (NPPOs), NGOs (CABI):</p> <ul style="list-style-type: none"> • 1 FFS / Plant Clinic per country will be tailored, material will be put on NDLP, with special emphasis on gender sensitive material. • This curriculum will be peer reviewed by selected other partner. • Provision of mentorship/training on trainer-of-trainers workshops to test the curriculum. <p>The curriculum review has already been introduced in a professional internship of IManema (at CABI Kenya – first outcome in Dec 2019).</p> <p>This will ultimately result in better nematology awareness amongst extension service workers and farmers.</p> <p>Material developed for the curriculum will be out on the NDLP. These can include videos showing healthy plants and infected plants (already initiated).</p>
	Due date	Oct 2023
	Languages	English, French, local languages (to be specified)
Target groups	<input type="checkbox"/> Teaching staff <input type="checkbox"/> Students <input type="checkbox"/> Trainees <input type="checkbox"/> Administrative staff <input type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input checked="" type="checkbox"/> Other	
	<i>Farmers (small scale, large scale), extension service workers, Ministries of Agriculture, NPPOs, NGO's</i>	
Dissemination level	<input type="checkbox"/> Department / Faculty <input type="checkbox"/> Local <input checked="" type="checkbox"/> National <input type="checkbox"/> Institution <input checked="" type="checkbox"/> Regional <input type="checkbox"/> International	

Expected Deliverable/Results/ Outcomes	Work Package and Outcome ref.nr	7.6.
	Title	Dissemination activities on level of private sector

	Type	<input type="checkbox"/> Teaching material <input type="checkbox"/> Learning material <input type="checkbox"/> Training material	<input checked="" type="checkbox"/> Event <input type="checkbox"/> Report <input checked="" type="checkbox"/> Service/Product
	Description	<p>Specific activities will be undertaken to create specific outcomes/results and reach towards the private sector. Students, under guidance from HEI staff can help Associated Partners set-up demo days for other stakeholders in the private sector (e.g. Syngenta to flower growers). In frame of NEMEDUSSA one demo-day will be organised in 2022 and 2023 in each country.</p> <p>This will result in university staff and students' involvement into the private sector and vice versa, better collaboration between sectors and better representation of needs of the industry in academia.</p>	
	Due date	Year 1: Nov 2022 Year 2: Oct 2023	
	Languages	English, French	
Target groups	<input checked="" type="checkbox"/> Teaching staff <input checked="" type="checkbox"/> Students <input type="checkbox"/> Trainees <input type="checkbox"/> Administrative staff <input type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input checked="" type="checkbox"/> Other		
	<i>Private companies, industry, non-HEI Associated Partners, farmers</i>		
Dissemination level	<input checked="" type="checkbox"/> Department / Faculty <input type="checkbox"/> Institution	<input type="checkbox"/> Local <input checked="" type="checkbox"/> Regional	<input checked="" type="checkbox"/> National <input type="checkbox"/> International

Expected Deliverable/Results/Outcomes	Work Package and Outcome ref.nr	7.7.	
	Title	Dissemination activities on level of policy makers	
	Type	<input type="checkbox"/> Teaching material <input type="checkbox"/> Learning material <input type="checkbox"/> Training material	<input checked="" type="checkbox"/> Event <input type="checkbox"/> Report <input checked="" type="checkbox"/> Service/Product
	Description	<p>Policy makers are the most difficult group to reach. Some of the dissemination activities described in WP7.2 are also intended to reach this group of stakeholders. Getting them informed and involved should lead to better awareness and more attention given to nematology related problems and solutions in policy measures. Actions towards policy makers will include sending Ministries of Education/Agriculture, and Embassies:</p> <ul style="list-style-type: none"> press releases about the project itself but also about specific activities results with intentions and (expected) outcomes of NEMEDUSSA Invitations to attend events will also be sent. <p>This will be the responsibility of the PM in collaboration with the partner HEIs in SSA.</p>	
	Due date	Jan 2024	
	Languages	English, French	
Target groups	<input type="checkbox"/> Teaching staff <input type="checkbox"/> Students		

	<input type="checkbox"/> Trainees <input type="checkbox"/> Administrative staff <input type="checkbox"/> Technical staff <input type="checkbox"/> Librarians <input checked="" type="checkbox"/> Other
	<i>Ministries of Education / Agriculture, Embassies, policy makers</i>
Dissemination level	<input checked="" type="checkbox"/> Department / Faculty <input type="checkbox"/> Local <input checked="" type="checkbox"/> National <input type="checkbox"/> Institution <input checked="" type="checkbox"/> Regional <input type="checkbox"/> International