Internship positions with RHDHV – 2 positions 5 topics.

The implementation of the Southwest project offers great opportunities for students to see and learn about the ground realities of the profession they are studying for. An internship with the project would be to mutual advantage because the student can perform tasks that will relieve the experts. Moreover, the university that is backing the student will also contribute knowledge to the tasks at hand. Not the least: internships usually create great enthusiasm about the job.

The following pages identify a number of possible options for internship. It should be realized that all options shall not be pursued at the same time because each internship requires office accommodation, a place to stay, transport, etc. all of which are in short supply. In fact, one or more possibilities for internship may be cancelled if the project conditions change.

The timing and duration of an internship shall be agreed upon after mutual consultation between the project and the student so as to fit the implementation schedule of the project as well as the study roster of the student.

The student will be self-supporting and pay for his own travel for (de-)mobilization and accommodation. But it is customary that (s)he can make use of project transportation (when available) and will receive a small contribution from the project to the cost of living. The project may consider paying the equivalent of €250/month.

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**Southwest Area Integrated Water Resources Planning and Management Project-2**

**Bangladesh**

**Possible options for student internship**

January 2018

**Summary**

Country: Bangladesh  
Districts: Faridpur (Main Office), Magura, Rajbari, Gopalganj, Narail, Jessore  
Type of project: Feasibility studies and Rehabilitation of water infrastructure with development of Water Management Organizations (WMOs)  
Implementation: Bangladesh Water Development Board  
Consultancy by: Royal Haskoning-DHV in joint venture with DevCon.  
Co-financed by: ADB and Government of the Netherlands  
Implementation: June 2017 till June 2022  
Caution: Timing and duration of internship to be decided after mutual consultation  
All internships are not possible simultaneously  
Bangladesh is faced with abject poverty, and safety issues from extremists  
Contact: robert.roostee@gmail.com (team leader of consultants)

**Internship 1**

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<thead>
<tr>
<th>Domain</th>
<th>Description</th>
<th>Requirements</th>
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| Hydrology   | To assist establishing the impact of flood control and drainage (FCD) measures on water levels in seasonally inundated saucer-shaped fields in the floodplains of the rivers. The interventions aim at increasing the agricultural and fisheries production of smallholders. | Good knowledge of hydrology and statistics.  
Knowledge of hydrological modelling could widen the scope of the assignment. |

This internship relates to output-1 of the project. The incumbent will study previous computations of water levels used for the designs of FCD schemes, and assist the hydrologist with similar computations for new FCD schemes. The assignment involves analysis of rainfall and river level records, area-elevation-storage curve, and drainage rate and dimensioning of regulators; assessment of land areas based on inundation depth. (S)he will also see how GIS applications will replace the area-elevation-storage curve.
**Internship 2**

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<tbody>
<tr>
<td>Integrated Water Management</td>
<td>To assist mapping and studying the present (natural) drainage system of floodplain areas and propose measures for flood control and improved drainage (and/or water retention) with the objective of increasing agricultural production. Involves much field work.</td>
<td>Understanding of hydrology, Google Earth. Familiarity with GIS and satellite imagery could widen the scope of the assignment.</td>
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This internship relates to output-1 of the project but can at smaller scale also relate to output 2. The incumbent will familiarize his/her self with the study area on the ground and in Google Earth. (S)he will update the (existing) GIS map with the location of minor canals (that are not show on the map) by tracking these canals in the field with GPS. The project has a GIS technician to enter the GPS tracks in GIS. The drainage system will then be studied in consultation with the local communities to identify bottlenecks and to recommend improvements such as excavation, cross-links. (S)he will also examine possibilities for water retention in the canals at the end of the monsoon season by means of water control structures. These technical options need to be discussed with the communities before being adopted in the water management plans.
Internship 3

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<tr>
<td>Water Management Organization</td>
<td>To assist in formation and development of WMOs as multi-functional organizations for improved water management and increased production of agriculture and fisheries, and general livelihood enhancements. Involves much interaction with the communities.</td>
<td>Understanding of social sciences, agriculture/fisheries and water management</td>
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This internship relates to output 2 of the project. The incumbent will familiarize his/her self with the jurisdiction area of the WMO so as to understand the water management interventions and how they would lead to increased production of agriculture and fisheries. (S)he will assist the project facilitators in devising so-called Collective Actions of the WMO members that will raise their income, such as collective procurement of seeds, fertilizer, etc.; collective use of machinery or storerooms; collective transport and marketing of produce. The WMOs will also pursue Value Addition like selling products instead of produce (for example banana chips instead of bananas). Introduction of such developments on the part of WMO requires much facilitation in the form of identifying opportunities, training, business development, etc. in which the incumbent will take part.
### Internship 4

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<tr>
<td>Water Management Organization</td>
<td>To assist with implementation of Sustainability Monitoring (SUMO) of WMOs, to analyze why some WMOs perform better than other, and to propose measures for improvement. Requires much interaction with the communities.</td>
<td>Understanding of social sciences, agriculture and water management</td>
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This internship relates to output 2 of the project, and relates to the question why some WMOs perform better than others. To that effect the project will introduce SUMO whereby sustainability is based on four Characteristics (i) Enabling environment, (ii) Organizational capacity, (iii) Results, (iv) Impacts. In turn, these are defined along 10 parameters and 72 indicators. Questionnaires will be used to collect the information that is required to classify the WMOs in terms of sustainability, and to devise measures for improvement. This concept is crucial for deciding when and how much the project/BWDB may reduce the support extended to the WMO.
## Internship 5

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<td>Inventory in GIS</td>
<td>To assist establishing an ‘index map’ in GIS with relational database, showing all water infrastructure in the project area with the possibility of marking items or sections of embankments/canals that are planned for/under rehabilitation. This index map is crucial for project planning and monitoring.</td>
<td>Knowledge of GIS and practical applications.</td>
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This internship relates to output 2 and 3 of the project. The incumbent will assist in collecting all the maps and information related to the water infrastructure in the project area which shall all be entered in a relational database with GIS. The project has a GIS technician using ArcGIS-10.5 and many maps are already available but they need to be systemized. The project does not yet have a database but BWDB has a country-wide database that contains information about the project area. That information can be copied. The incumbent will also assist in defining the requirements of the database/GIS with regard to planning, implementation and progress monitoring of civil works, and assist in developing the tool for practical use.
Project Information

**Background**
Public investments for expansion of Flood Control and Drainage/Irrigation (FCD/I) schemes have been made since 1950s aiming at increased rural productivity of agriculture and fisheries, and improved livelihood. The Flood Action Plan (FAP) studies, carried out after devastating floods in 1987/88 identified the need for institutional change. This resulted in framing of the National Water Policy (NWP) of 1999. It set new goals, such as (i) Integrated Water Resources Management (IWRM), (ii) user-participation and (iii) improved governance. The Guidelines for Participatory Water Management were adopted in 2001, and the Cooperatives Act was revised in 2001. Lastly, the Participatory Water Management Rules were enacted in 2014. The Southwest Area Integrated Water Resources Planning & Management Project (SAIWRPMP) phase-1 (2006-15) was instrumental for implementation of NWP and NWMP. SAIWRPMP- Additional Funding (AF) builds on the results of phase-1.

**Project description**
Under Asian Development Bank (ADB) loan No. 3302 (SF) (USD 45 million) and the Government of the Netherlands (GON) grant No. 0441 (EF) (USD 7 million) to the Government of Bangladesh (GOB), The Bangladesh Water Development Board (BWDB) will execute the SAIWRPMP-AF, covering a total area of 84,000 hectares and a population of about 470,000 in the Districts of Faridpur, Magura, Rajbari, Gopalganj, and Jessore, with impact and outcome as described below. Other line-agencies will play an important role too, such as the Department of Agricultural Extension (DAE), and Department of Fisheries (DOF). Consultancy services are provided by the consortium of Royal HaskoningDHV from the Netherlands and DevCon from Bangladesh, who were also involved in phase-1 of the project. The Development Project Proforma (DPP) for the project was drafted in May and last recast and approved in September 2015. The Project Management Office (PMO) started its operations in July 2015 as approved in the recast DPP. The input of the Consultants was delayed, and started in June 2017. The project duration is until June 2022.

**Impact and outcome of the project**
The impact of the project will be enhanced economic growth and reduced poverty in rural areas of the selected districts in the southwest area of Bangladesh, aligned with the government’s sixth Five-Year Plan, FY2011–FY2015. The outcome will be enhanced productivity and sustainability of the selected existing FCD/I systems, which contributes to increasing incomes and livelihood standards of disadvantaged groups, including women. The impact and outcome statements are unchanged for the current project under additional funding.

**Output targets**
The output targets for the current project will be scaled up by expanding the geographical areas from the earlier two subprojects of Narail and Chenchuri Beel to include nine additional subprojects. The targets of the additional financing outputs are summarized in the following paragraphs.

**Output 1: Integrated Water Management Plans (IWMPs)** will be prepared for four new subprojects, of which only two will be implemented under the project (Purulia-Charibhatpara and Bamankhali-Barnali). The other two IWMPs (Sunamukhi-Banmander and Arol Beel) are not planned to be implemented under the project. Each plan formulates holistic water resources management planning and safeguards assessments for the subproject, based on intensive participatory analyses of local conditions and needs. Moreover, Feasibility Studies (FS) will be prepared in two geographical areas (Tungipara and Kotalipara) in order to address drainage congestion. These studies will be outsourced early on, but the budget is presently not secured. Implementation is not foreseen under the present project. The deliverables for output-1 are four IWMP reports and two feasibility reports.

**Output 2: Water management organizations’ capacity for sustainable water resources planning and management in the subproject areas strengthened.** The additional financing will cover the formation and capacity development of Water Management Organizations (WMOs) (22 Water Management Associations (WMAs) comprising 150 Water Management Groups (WMGs) in the additional nine subproject areas, aiming at an enrollment of 70% of the households. To that effect, each subproject area will be divided into semi-independent hydrological subunits. WMAs will be formed that will manage each subunit and lower-tier WMGs. A Subunit Implementation Plan (SIP) will be prepared for each subunit. The plan will include specific requirements for renovation or construction of water management infrastructure, and capacity development and livelihood support programs for WMOS. The project support will be extended to training and capacity development of the existing 14 WMAs and 102 WMGs (in Narail and Chenchuri Beel) for operation of civil works, routine minor maintenance of infrastructure, preparing O&M manuals, and effectively using WMO O&M funds.
For all WMAs established under the project, the O&M responsibility for infrastructure will be shared under the Implementation Agreement signed between the SMO and WMA, and after adequate training has been given to the WMAs.

**Output 3: Infrastructure facilities of flood control, drainage, and irrigation schemes in the subproject areas restored.** The third output will include renovation or construction of water management infrastructure, such as gated water retention structures, flood embankments, re-excavation of drainage and/or irrigation canals, and local riverbank protection works.

**Output 4: Institutional capacity for sustainable participatory integrated water resources planning and management strengthened.** The fourth output will focus on the national institutional capacity development of BWDB for (i) efficient coordination with government departments, such as the DAE and the DOF; (ii) management and monitoring of WMO activities that will be registered with OCWM-BWDB under the participatory water management rules of 2014, and (iii) performance monitoring and O&M of water management infrastructure by the PMO. Deliverables comprise a report on a clear setup of the Office of the Chief Water Management, an approach for auditing of WMOs, and a database for monitoring WMOs, as well as a range of trainings.