

response to the changing CGIAR environment, but also due to the program's commitment to be a learning organization.

In the original proposal, the AAS team indicated an orientation toward action research. This was defined in the proposal based on Reason and Bradbury's (2008) action research handbook, which highlights the typical elements of active participation of those who would otherwise be considered as research subjects, and systematic cycles of action and reflection. The proposal also identifies a continuum between "technical action research" on the one hand, and "emancipatory action research" on the other.¹⁵ In subsequent documents, the program uses the term "participatory action research."¹⁶ The related terms "systems research" and "participatory research" are also used in AAS documents.

AAS builds on past productivity-oriented research, particularly of WorldFish, and a major emphasis is on harnessing the full potential of aquatic agricultural systems for increased productivity. AAS is also supposed to draw on knowledge and technology generated by the other CRPs.

The program uses the term "**Research in development**" (RinD) to describe its approach.¹⁷ The suggestion is that through this approach, agricultural research is embedded in on-going development actions and processes, and adds value by leveraging potential for innovation. Its implementation focuses on participatory action research within a set of geographical defined "learning hubs". The action research approach promoted by AAS emphasizes engagement with farmers, fishers, NGOs and government institutions in each hub to identify the main challenges and thereby the research priorities. It involves the potential beneficiaries in the action research process. A key feature of AAS is its focus on "transformational change" with a very strong focus on transforming gender relations.

¹⁵ The proposal does not include a review of the various earlier approaches to promote action research in the CGIAR system, even those existed since the 1980s (see, e.g., Becker, 2000). The AAS proposal does, however, emphasize its distinction from what is considered to be typical CGIAR research. As the proposal states: "We recognize that full immersion into action research will require a major change in the way most CGIAR scientists work." (CRP proposal, p. 8).

¹⁶ See AAS Working Paper "Research in Development: The Approach of AAS" by Dugan, Apgar and Douthwaite.

¹⁷ We note that the term "research in development" is used by other CGIAR centres, but in different ways (see e.g.: Coe, R., Sinclair, F. and Barrios, E. (2014) Scaling up agroforestry requires research 'in' rather than 'for' development, *Current Opinion in Environmental Sustainability* 6:73–77).

Table 1: AAS Objectives and Research Themes

No	Objective	Research Theme
1	Increased benefits to AAS-dependent households from environmentally sustainable increases in productivity.	Sustainable increases in system productivity: participatory production, adaptation of appropriate technologies
2	Improved markets and services available to poor and vulnerable AAS households.	Equitable access to markets: improve benefits to low-income actors along agricultural and natural resource value chains
3	Strengthened resilience and adaptive capacity in poor, vulnerable and marginalized groups and households.	Social-ecological resilience and adaptive capacity: social systems research and action for social change to support improved capacity and resilience
4	Reduced gender disparities in access to and control of resources and decision making through beneficial changes in gender norms and roles.	Gender equality: integrates gender within all research themes, studies gender norms and roles
5	Improved policy and formal and informal institutional structures and processes implemented to support pro-poor, gender-equitable and sustainable development.	Policies and institutions to empower AAS users: supporting improved arrangements; action research involving key stakeholders
6	Productive relationships, partnerships and networks capable of achieving research and development outcomes sustained through effective knowledge sharing and learning.	Knowledge sharing, learning, and innovation: participatory action research to foster program learning and support social learning with stakeholders

Source: AAS Proposal Document March 2011

Table 2: AAS Intermediate Development Outcomes (IDOs)

Material
1. Income: Increased and more equitable income from agricultural and natural resource management and environmental services earned by low income value chain actors in aquatic agricultural systems
2. Nutrition: Improved diet quality of low income households in aquatic agricultural systems, especially by nutritionally vulnerable women and children
3. Future Options: Greater resilience in aquatic agricultural systems for enhanced ecosystem services
Enabling
4. Productivity: Improved productivity in aquatic agricultural systems (water and total factor productivity)
5. Gender & Empowerment: Increased control of assets, inputs, decision-making and benefits by women and other marginalized groups in aquatic agricultural systems
6. Capacity to innovate: Increased capacity to innovate within low income and vulnerable rural communities in aquatic agricultural systems
7. Capacity to adapt: Increased capacity to adapt to environmental and economic variability, shocks and longer term changes in low income communities in aquatic agricultural systems

Source: AAS Extension Proposal.

AAS Structure and organisation

The AAS is led by WorldFish Center, with Bioversity International and IWMI as main CGIAR partners. The proposal emphasizes partnerships with other CG centers and a wide range of other partners.

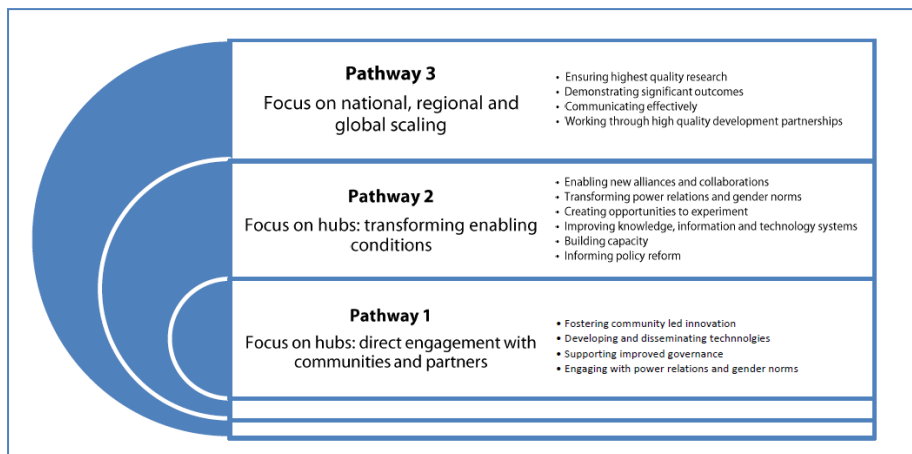
AAS was originally structured along the lines of six research themes¹⁸. In 2014 it was restructured along so-called geographical flagships/hubs and one additional Flagship for global science and scaling.¹⁹ In the first version of the 2015-2016 extension proposal, three of the four flagships are defined as major AAS ecologies and the fourth remains as Global Science and Scaling. Furthermore, the extension proposal identified two additional hubs. Accordingly, AAS is structured in relation to

- (i) Flagship projects (= 6);
- (ii) Countries (= 5);
- (iii) Hubs (= 5);
- (iv) Research themes or clusters (= 6); and
- (v) Bilateral projects (= approximately 50).

Theory of change

The AAS Theory of Change articulates three impact pathways, which are now also referred to as scaling pathways (Figure 1). The first pathway focuses on direct engagement with communities and partners in the hubs, and the second on transforming the enabling conditions at hub-level. The third pathway involves scaling up what has been learnt at the hub-level to the national, regional and global level. Through these three pathways AAS expects to deliver both place-based "development outcomes" (Pathways 1 and 2) as well as international public goods (Pathway 3).

Figure 1: AAS Scaling Pathways



Source: AAS Working Paper. Using theory of change to achieve impact in AAS.

¹⁸ System productivity, access to markets, resilience and adaptive capacity, gender equity, policies and institutions and knowledge sharing

¹⁹ Program of Work and Budget 9POWB), 2014

Current state of play

AAS completed its 3rd year of operations in July 2014. In order to synchronize those CRPs that were launched in mid-2011 with those that started later, AAS was granted an extension until the end of 2014 based on the submission of its Program of Work and Budget 2014.²⁰ An extension proposal for 2015 and 2016 was submitted to the Consortium Board in April 2014 and was reviewed by the Independent Science and Partnership Council (June 2014) and the Consortium Office (July 2014). As a result AAS has been asked to submit a revised proposal by the end of August 2014. The on-going extension process is an “intermediate solution” in anticipation of a call for second phase CRP proposals.

AAS Governance and management

The AAS proposal specified the following Governance and Management structure: the Consortium Board; a Program Oversight Panel; a Program Leader; a Program Leadership Team; a Program Support Unit; a Program Forum; Country Program Committees; Country Program Teams; and Country Program Managers. This structure is being implemented through a number of formal agreements.

A **Joint Agreement** between Fund Council and the Consortium in 2011 sets out the umbrella terms governing the submission and approval of CRP proposals and the transfer to and use of W1/W2 funds by CRPs. In the **Consortium Performance Agreement** the Consortium assumes overall financial and programmatic responsibility for the implementation of AAS. In a **Program Implementation Agreement** between Consortium and WorldFish, the latter assumes responsibility for the use of W1/W2 funds transferred to it by the Consortium, and for the satisfactory performance of AAS. WorldFish signed a **Program Participant Agreement** with IWMI and Bioversity in which the latter two centers accept responsibility for the use of W1/W2 funds transferred to them by WorldFish, and for the satisfactory performance of AAS activities.

The AAS **Director** (Patrick Dugan, also Deputy Director General of WorldFish) has overall responsibility for the implementation of AAS. The **Program Oversight Panel** (POP) is the main oversight body for AAS. It was established to provide “objective and flexible oversight of the program” and consists of eight internationally recognized scientists and development professionals. The POP reports to the WorldFish Board of Trustees (including an annual report on the implementation of the Program Implementation Agreement).²¹ The **Program Leadership Team** (PLT) provides “collective leadership of the program” and supports the Program Director and the POP in providing strategic direction and coherence, ensuring science quality, and ensuring operational effectiveness. It consists of representatives of participating centers (Bioversity, IWMI, WorldFish), representatives from two international NGO partners (CRS, CARE), AAS Country Leaders (or their delegates), the head of the Program Support Unit (PSU), and lead scientists for the Program’s six research themes. The PLT is chaired by the Program Director. He informed the evaluation team that the leadership arrangements for the program have been in transition in 2014 and that an expanded Senior Leadership Group will be implemented in 2015.

²⁰ See CGIAR 11th Fund Council Meeting Summary, May 7-8, 2014

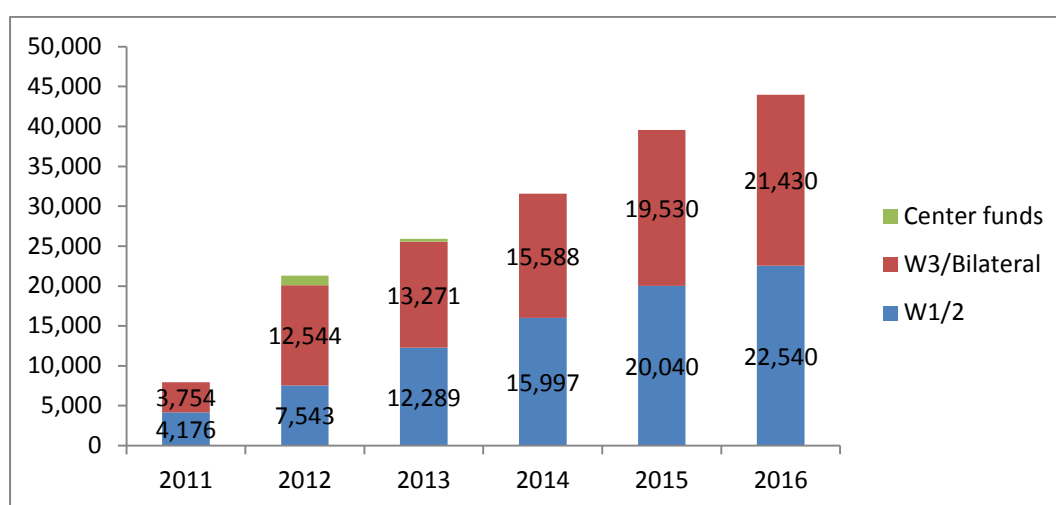
²¹ See Terms of Reference for the Program Oversight Panel of CRP AAS, Approved by the WorldFish Board of Trustees 11th August 2011

AAS funding and expenditures

AAS is one of the smallest CRPs with a three year (2011-2013) proposed budget of USD 59 million (USD 17.3, 19.8 and 22.4 in Years 1, 2 and 3 respectively). About 20% was projected to come from the Fund (W1/W2) and 45% from bilateral sources: the source of the remaining 35% was not specified. The original budget projection for 2014-2017 was for USD 85 million.

In the first 2.5 years of implementation (June 2011 to December 2013), AAS received and spent around USD 54 million, somewhat above what was projected in the proposal. Most of the total expenditure (96%) has been through WorldFish, while IWMI and Bioversity spent only 3 and 2%, respectively. Figure 2 shows the expenditures for 2011 to 2013 and the budget estimates for 2014 to 2016. W1/W2 funding has been proportionately more than projected in the original proposal (in the first 2.5 years 42%).

Figure 2: AAS Expenditures (2011-2013) and expected budget (2014-2016) in USD thousands

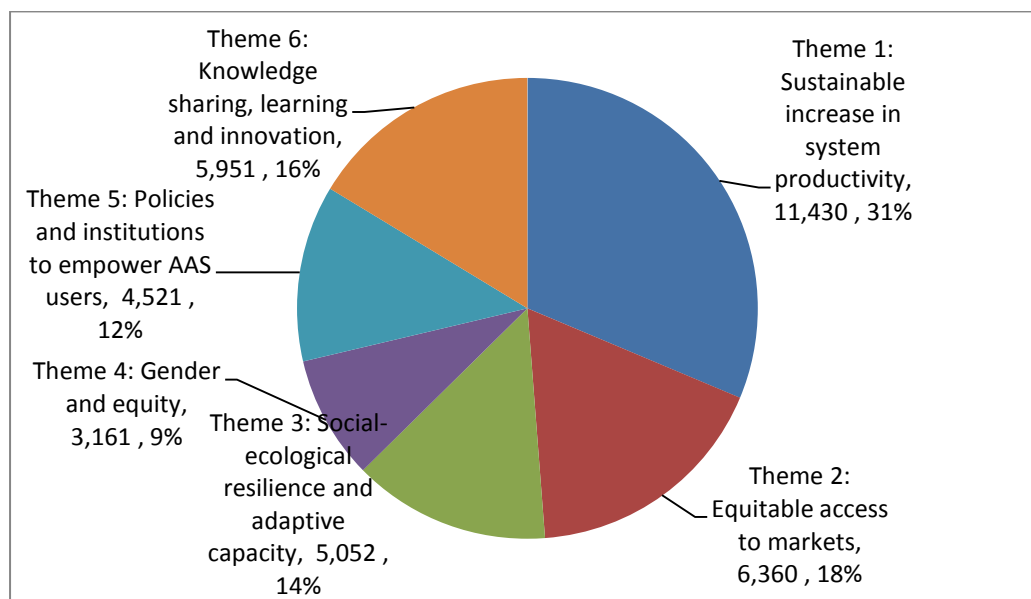


Source: *Financial Reports 2012 and 2013 (L101), POWB 2014, Extension Proposal 2015-2016.*

The largest bilateral donors have been USAID (project "Aquaculture for Income and Nutrition in Bangladesh" and others); IRRI (money passed to WorldFish for the "Cereal Systems Initiative for South Asia" project); IDRC ("Economy and Environment Program for Southeast Asia"); and ACIAR (the "Pacific Fisheries" project and others).

CRP Management and Coordination accounts for 33% of the total expenditures. It should be noted that in addition to governance and management, expenditure for partnership, communications, science leadership and support also falls under this heading. The research themes within AAS are funded to different levels (Figure 3), with Theme 1 (Systems Productivity) funded at almost twice the level of the second most funded theme.

Figure 3: Expenditure (from mid-2011 to 2013) per Theme²²



Source: AAS Financial Reports 2012 (L101) and 2013 (L131)

AAS current portfolio

Work in the different Flagships and themes is presently at different stages, and is funded from different sources. Funding under W1/W2 should give AAS the best opportunity to implement its envisaged approach, while bilaterally funded projects are associated with specific interests of donor agencies. It is essentially the W1/W2 funding which allows the "roll-out" of the AAS approach in the hubs and the initiation of the "integrated research initiatives" designed in response to the roll-out exercises. AAS activities funded through W1/W2 are detailed in 78 Activity Plans and mid-year activity reports, which will be an important resource for the evaluation.

There are a total of 53 bilateral projects, all of which are led by WorldFish. In contrast to other CRPs, the participating centers have not included funding from any of their bilateral projects within the AAS portfolio. There are a number of "legacy projects" which are a continuation of, or which build on, research undertaken by World Fish in the pre-AAS period. Many of the current bilateral projects were designed before the formal start of AAS.

Work under each geographical Flagship and the global Flagship consists of clusters of activities organized under the respective research themes (Table 3). It needs to be noted that several of the bilateral projects are spread over different clusters of activities within the same Flagship or in two cases even over different Flagships.²³

²² This figure does not include management and coordination expenditures.

²³ The EC funded project "Implementing an ecosystem approach to fisheries (EAF) in small scale tropical marine fisheries" (DCI-ENV/2011/221-352) as well as the ACIAR "Pacific Fisheries Project" are part of both the Solomon Islands and Global Scaling Flagships.

Work under each geographical Flagship and the global Flagship consists of clusters of activities organized under the research themes and funded through W1/W2 and bilateral projects (Table 3).

Table 3: Overview of AAS Flagship Projects Portfolio (figures in USD thousands)²⁴

Flagship project	Number of projects			Budget			
	W1/W2	Bilateral	Total	W1/2	Bilateral	Total	%
1 – BAN	7	13	28	1.417	6.593	8.010	25
2 – CAM	6	6	12	1.029	1.126	2.155	7
3 – PHI	5	5	10	1.052	1.999	3.052	10
4 – SOL	5	6	11	1.099	1.250	2.350	7
5 – ZAM	6	2	10	4.080	0.800	4.880	15
6 – GLO	7	21	30	7.572	3.838	11.410	36
TOTAL	36	53	100	16.252	15.607	31.860	100

BAN – Bangladesh; CAM = Cambodia; PHI – Philippines; SOL – Solomon Islands; ZAM – Zambia; GLO = Global Science and Scaling. Source: AAS Project database, as of Aug 2014.

The largest Flagship overall is Global Science and Scaling which accounts for about 46% of W1/W2 funds. According to AAS management, a substantial share of the funding under this Flagship is spent on design, implementation and analysis of research in the geographical flagships. Flagship 1 (Bangladesh) is the largest of the geographical Flagships and also has the largest number of bilateral projects. Almost 90% of bilateral projects have budgets less than USD 250,000: there are only seven projects with budgets of more than USD 500,000 (Table 4). Budget by Flagship project and research theme is shown in Figure 4.

Table 4: Bilateral projects larger than USD 500,000 (figures in USD thousands)

Research theme	Project Title	Budget	Start date	End date	Funder
Productivity	Expansion of Cereal Systems Initiative for South Asia (CSISA) in Bangladesh	0.556	1-Oct-10	30-Sep-15	IRRI
	FTF: Aquaculture for Income and Nutrition (AIN) (some part of budget is in Value chain Theme)	4.750	1-Oct-11	30-Sep-14	USAID
	Rice field fisheries improvement project	0.609	18-Apr-12	17-Apr-16	USAID
Global and regional scaling	Pacific Fisheries	1.327	1-Jul-13	30-Jun-17	ACIAR
	Improving research and development of Myanmar's inland and coastal fisheries	0.670	1-Sep-12	31-Aug-16	ACIAR

Source: AAS Project database, as of Aug 2014. A small part of the Pacific Fisheries project is mapped to Solomon Islands

²⁴ The two projects which are mapped to SOL and GLO Flagships are counted in SOL for this overview.

Figure 4: AAS Portfolio budget per Flagship and cluster of activities/research theme (in USD million).



Source: AAS Project database, as of Aug 2014.

3. SCOPE OF THE EVALUATION

The evaluation will cover all research and related activities and processes of AAS since its inception in

July 2011. This includes also "transferred (or legacy) research" that was initiated before the start of AAS and is carried on within AAS.

The evaluation will be both summative and formative. The summative element that looks at achievements and results will, to some extent, cover research done before the AAS was initiated. Given that AAS has been in operation for only three years, the major formative emphasis of the evaluation will be formative.

Throughout the evaluation, particular emphasis will be placed on the "AAS approach" and the likelihood that it will lead to sustainable outcomes and impacts in aquatic agriculture systems on the one hand, and the production of international public goods on the other.

4. EVALUATION CRITERIA AND QUESTIONS

AAS-specific overarching questions

As indicated in the introduction above, AAS defines itself as using a "Research-In-Development" (RinD) approach and claims that this is fundamentally different from what the AAS proposal labels as "traditional" CGIAR research.²⁵ Through the development and use of RinD AAS has the ambition to be more effective in achieving its objectives than (the AAS proposal suggests) has been the case with research approaches used by the CGIAR in aquatic agricultural systems in the past. It also seeks to become an "exemplary vehicle for implementing the fundamental changes in ways of working that the CGIAR reform process foreshadowed."²⁶ Although the CGIAR has in the past made important contributions in the realms of farming systems and participatory research,²⁷ AAS sets itself apart from past CGIAR programs and the other CRPs by its encompassing and exclusive dedication to participatory action research. As articulated in the proposal and developed over the last three years, the "AAS approach" has been proclaimed as more innovative, and an alternative to what the AAS characterizes as conventional, "linear" approaches to commodity-focused agricultural research.

To take the specific framing and ambition of AAS adequately into account, this evaluation will address the following questions that are specific to the AAS approach and go beyond the concerns of a classic research performance evaluation that are addressed in the subsequent sections:

²⁵ As stated in the AAS Proposal (p. 1): "Pursuing our work in this way will challenge the CGIAR to move beyond traditional circles and change the way we do much of our research. By emphasizing approaches that call for research in development — rather than research and development or research for development — we will pursue a conscious change in emphasis and mind set, one that can help the CGIAR to conceive and deliver our research differently."

²⁶ AAS Proposal, p.1.

²⁷ See, e.g., Becker (2000) for a review. Most notably, the CGIAR had a System-wide program for Participatory Research and Gender Analysis. See Anderson, Herdt & Scobie (1988, p. 41 ff) for an early review of Farming Systems Research in the CGIAR.

1. What in the AAS approach to research is new, innovative and/or unique in the context of agricultural research and the CGIAR?
2. How does the AAS approach to research draw on earlier and on-going work, especially participatory action research approaches, from inside the CG and elsewhere?
3. What progress has been made so far in developing and implementing the AAS approach to research?
4. What are the challenges faced while implementing the AAS approach and are there any missing links or actions, which could help to make the AAS approach more effective?
5. To what extent is the AAS approach better suited than other research approaches to meet the challenges faced by people living and working in AASs? To what extent is it better suited to reach marginalized groups and women and to address the inequities they face?
6. Is the AAS approach to research, as it is being implemented in the various hubs, likely to deliver both international public goods and the identified IDOs?
7. What are the comparative advantages and the added value of the CGIAR via AAS in developing and implementing this approach to research in aquatic agriculture systems?
8. To what extent is the AAS approach a model for other CGIAR research programs, especially with regard to the CGIAR's stated aim of moving from a "supply-driven" to a "demand-driven" mode of research?
9. How do partners and networks understand the AAS approach and its implementation?

The importance of these questions has been reinforced by the evaluation team's initial reading of AAS documentation and the first interaction with AAS management and staff, who emphasized the need to consider the unique nature of the AAS approach in this evaluation. These questions are also very much reflected in the ISPC and CO comments on the first version of the AAS 2015-2016 extension proposal.

Over the course of this evaluation, the team will address these questions by examining in detail various aspects of AAS design, implementation, outputs and management and governance. The evaluation methodology, especially the case study component, has been specifically designed to address the nature of AAS. While paying special attention to the AAS approach, the evaluation will also apply established criteria for evaluating research and organizational performance, as further outlined in the following sections.

Research/Program Performance

Relevance

The assessment focuses on the following main aspects of relevance:

- The strategic coherence and consistency of AAS regarding its own objectives and the CGIAR's System Level Outcomes;
- The comparative advantage of the CGIAR and the participating centers developing and implementing AAS compared to other research and development organizations, given the CGIAR's focus on generating international public goods;
- The relevance of the program in responding to the needs and priorities of the intended beneficiaries and stakeholders and the national, regional and global priorities;
- The relevance of program to more equitable gender and social relations;

- The relevance of the program in responding to emerging opportunities for generating new research-based knowledge.

The evaluation will assess the formulation of the IDOs and their relevance against the program objectives and CGIAR SLOs. It will assess the integration of research within and among the FPs and the prioritization of activities for addressing the IDOs. Priority setting processes will be assessed, as will the use of W1/W2 funding, resource mobilization and strategic foresight. The evaluation will also assess the synergies among AAS partners, and opportunities for further enhancing the relevance of research results.

Quality of Science

The evaluation of science quality will look at several dimensions of quality including the make-up of the research teams and partnerships, research design, research management, quality assurance and research outputs.

The evaluation will look at the processes and incentives in place for ensuring high quality research across program components and partners. It will assess the track record of research leaders and the competences of research staff. It will look at the program design in terms of problem setting, the use of state-of-the art research literature and methods, and novelty.

Likely Effectiveness

Effectiveness will be assessed primarily from the point of view of likely effectiveness of the current program, rather than past impact. The evaluation will look at the program design, and particularly the plausibility of the theories of change and impact pathways (both generic and specific). The assumptions underpinning the theories of change will be assessed as well as the Program's use of the theories of change for informing the assumptions and monitoring changes towards outcomes. The evaluation will consider the extent to which risks and constraints influencing out-scaling, outcomes and impacts are being addressed in research design, partnerships and capacity building. It will look at the extent to which gender analysis and social analysis more broadly have informed the impact pathways. The evaluation will also consider the linkages that AAS has with other CRPs, and opportunities for further enhancing the likely effectiveness of the research they contribute to.

The evaluation will assess progress towards milestones and outputs across the research portfolio. It will assess the M&E system and the extent to which it is used by management to adjust research plans and impact pathway designs, including learning from gender and policy analyses.

Sustainability

Given that AAS is aiming at transformative social changes and enhancing system sustainability, the evaluation will assess the value, in terms of increased sustainability and resilience, that the approach may add to productivity enhancing and other more technology-oriented research done by AAS or other CRPs collaborating with AAS in aquatic agricultural systems. The evaluation will also assess the extent to which the AAS approach is likely to be sustained and scaled over time.

Impact

As part of the summative component of the evaluation the extent to which past research has led to positive outcomes and impacts will be assessed. This analysis will likely be limited by the availability of evidence of impact. Furthermore, the evaluation of past research will include only research that has

continuing relevance to AAS (i.e. research transferred to AAS or relevant for the current program). Most of this research has been conducted by WorldFish.

To the extent possible, the evaluation will assess emerging results, outcomes and influence of AAS since its beginning, and the approaches of documenting AAS results.

Partnerships

The evaluation will consider the partnerships among the implementing centers (WorldFish, IWMI and Bioversity International), linkages with other centers and CRPs, and with other research and development partners. It will look at co-researcher arrangements and how partner activities within AAS are funded and managed. The evaluation will consider issues such as coordination, decision-making, joint ownership of results and transaction costs, and assess equity, transparency, efficiency and effectiveness of partnerships.

Gender

As with all CRPs, AAS has a gender strategy that has been developed with the guidance of the Consortium Office. Furthermore, in AAS gender is one of the research themes. The evaluation will assess the implementation of the gender strategy and orientation and quality of gender-oriented research within the gender theme and across other themes and activities.

Capacity building

The evaluation will look at how capacity building is prioritized in order to address partners' needs; the incorporation of capacity building into research activities for mentoring and enhancing the relevance and likely uptake of research results; the consideration of capacity issues among assumptions and risks related to the theories of change; and equity in targeting.

Monitoring and Evaluation

Monitoring and evaluation are part of the research implementation in AAS and thus the M&E design, indicators, and frequency and timing of use in adaptive management will be evaluated as part of the process. Novel aspects of M&E built within an action research paradigm and contribution to methodology literature will also be looked at in the evaluation.

The methods used for monitoring and documenting AAS results will be assessed, including their compatibility with the action research approach being taken, the aspects of program design and implementation, for instance baseline studies that will enable impact assessment, and the resources allocated to documenting outcomes and impacts.

Governance and management

Governance and management – if functioning properly – lead to good organizational performance. This is one of the pre-conditions for the performance of AAS and its ability to produce international public goods and contribute to the IDOs. All CRPs including AAS function in the framework of the "new CGIAR". This framework is of utmost importance for AAS and hence for this evaluation. As a first step the evaluation will accept this framework as given. In a second step however, it will – as part of the evaluation of the governance and management component – also include an analysis of the influence the framework and its CGIAR level implementation by the CGIAR Consortium and the Fund Council have on the likely success of the AAS.

In order to facilitate the understanding and consistency across the CGIAR, this part of the evaluation will wherever possible and appropriate use the same terminology and criteria as the "Review of CGIAR Research Programs' Governance and Management" (Final Report, March 2014). In line with this cross-CRP review, the following review criteria will be addressed: (i) legitimacy and participation, (ii) accountability, (iii) fairness and equity, (iv) transparency, (v) efficiency, (vi) effectiveness and (vii) independence.

With these criteria in mind, the evaluation on governance aspects will focus on: (i) management oversight; (ii) stakeholder participation, (iii) risk management, (iv) conflict management and (v) audit and evaluation. In relation to management the evaluation will focus on: (i) priority setting and planning, (ii) regulatory compliance, (iii) reviewing and reporting, (iv) administrative efficiency, (v) internal and external communication and relationships, (vi) learning, (vii) financial management and (viii) human resource development and staff performance assessment.

5. EVALUATION APPROACH AND METHODOLOGY

Evaluation approach and rationale

As explained in Chapter 4, the evaluation approach was developed to address the specific nature of the AAS Research-in-Development approach, which describes itself in terms of "action research", "participatory action research", "participatory research" and "systems research". The evaluation approach also takes into account the fact that the program has a strong focus on qualitative research methods, which need to be evaluated differently from quantitative research approaches. It is also acknowledged that AAS is a CRP that is systems rather than commodity oriented, and that it focuses on system change, system productivity, sustainability and resilience combined with transformational social change. The evaluation approach addresses the fact that AAS aims to develop international public goods based on highly contextualized research activities taking place in specific localities. It also pays specific attention to the AAS principle of "commitment to place and people" which emphasizes the quality of the research process, in particular the quality of engagement with communities and partners (see AAS Approach Paper). The evaluation also takes into account the fact that AAS pursues a "gender transformative approach", which is meant to go beyond "mainstreaming" or simply considering men and women as stakeholder groups (see AAS Approach Paper, p.5).

The evaluation approach reflects the intention to be consistent with (i) the principles for evaluation used in the systems, participatory and action research communities, and (ii) the principles established

for evaluating qualitative research methods (see, e.g. Bitsch, 2005). At the same time, it reflects the requirements of the Independent Evaluation Arrangement for the evaluation of CRPs (as stated in the *Evaluation Policy, Guidelines and Standards*²⁸), which respond to the needs of the funding agencies and the principles of evaluation in international organizations (see, e.g. UNEG, 2005).

In developing its evaluation approach, the team explicitly acknowledges that different disciplines and research communities have epistemological differences regarding what constitutes evidence, what methods are appropriate to generate and analyze evidence, and what inferences and insights can be drawn from different types of evidence and analysis.

The approach to the evaluation outlined here takes into account the fact that, in principle, action research encompasses evaluation as an integral part of the research process. This is often described as the "observe" and "reflect" steps of the action research cycle. We recognize that AAS has put in place an M&E system and we assume that it will play an important role in this evaluation. The evaluation approach explicitly acknowledges the fact that AAS has operated for only three years and that for the scope of an external evaluation of the sort pursued here there are limitations in terms of time and resources. A major constraint in evaluating the action research of AAS is the limited time that the evaluation team can spend with communities and partners in the field.

The evaluation has been designed taking into account the magnitude of the AAS program. As of July 2014, AAS has been in operation for three years, although some AAS research is a continuation of, or builds on, research undertaken in the pre-AAS period by the participating Centers, WorldFish in particular.

The evaluation team acknowledges that, over the three years of operation, there have been some important changes to AAS, some resulting from the CGIAR requirements. These include the changing use of the term "Flagship", a shift from research themes to clusters, and a change in the way the term "hub" is used.

Overview of the methodology

The methodology developed for this evaluation can be described as “**case-based, multi-level and mixed methods.**” This consists of four main components:

- (1) ***A qualitative case study component, which focuses on an in-depth assessment of purposely selected AAS hub-level initiatives and research projects.*** These initiatives (referred to as “roll-out cases” or “roll-out activities”)²⁹ and the (bilaterally funded) research projects will serve as cases to be studied using a mix of methods, including participatory methods (see below for more information). Special attention will be paid in the case studies to research methodology, results, dissemination techniques and interactions with communities and partners. The aim of the case studies is to provide insight into the overall RinD approach and into the Flagships and research themes. The cases will be carefully selected in collaboration with AAS Management Team to provide the best opportunities to learn how the AAS approach works in practice.
- (2) ***A document review component to provide evaluative information about the broader portfolio of***

²⁸ www.iea.cgiar.org

²⁹ This terminology has been proposed by AAS Management with the aim to make it clear that the activities pursued according the AAS RinD approach are different from bi-lateral research projects.

AAS activities. This component will include a review of documents related to the overall AAS program, including governance and management; a sample of documents that relate to specific roll-out activities and projects, research outputs (e.g. peer reviewed journal articles, conference proceedings etc.), dissemination (e.g. success stories, policy papers, manuals, documentaries etc.) and impact. A combination of standardized format and qualitative evaluative assessment will be used.

- (3) **A research staff survey**, which will involve a questionnaire-based survey of the researchers involved in AAS, either through direct employment or through partner organizations that receive funding from AAS. The purpose of the survey is to offer a possibility to all researchers involved to reflect on their experience, and contribute their views and insights to the evaluation.
- (4) **An interview component**, which will be based on semi-structured interviews to provide insights into different areas of AAS complementing the case studies. The interviewees will include members of the governing bodies of and the management and administration of the AAS; members of the CGIAR governing bodies; partners and funders of AAS; leading academics with insights into AAS research; and long-term members and observers of the CGIAR system who are particularly familiar with the history of action research or comparative approaches in the system.

This evaluation methodology relies on a combination of methods, which have been selected to address the specific nature of AAS. It will allow the evaluation team to strike an appropriate balance between (i) the goal of supporting AAS by creating opportunities for learning and for jointly identifying options for improvement, and (ii) the goal of providing guidance for the stakeholders in the CGIAR system in terms of accountability and funding decisions. Where possible and appropriate, the team will explore opportunities to link to other CRP evaluations so that a comparative dimension might be developed. For example, to the extent that it is appropriate, a common set of questions will be used in the staff survey.

Methods of data collection and analysis

Component 1: Qualitative case studies

Rationale for the case study approach

Qualitative case studies are a research design that is widely used in the social sciences, health sciences and other disciplines. The goal of the case study approach is to understand a phenomenon by conducting an in-depth and holistic study of one or more carefully selected cases. The case study approach involves more than just examining a single case or situation (cf. Baxter and Jack, 2008). In particular, it entails studying the selected cases (i) in their specific contexts, (ii) applying different disciplinary perspectives, and (iii) using different methods of inquiry. Both qualitative and quantitative data collection methods can be used within a case study methodology. Cases can be selected for a variety of reasons: because they provide for a particular contrast of interest; because they represent different stages; because they represent extremes etc. One of the most valuable aspects of case studies is that individual cases can be adequately contextualized. The case study approach has been acknowledged as being “useful for testing whether scientific theories and models actually work in the real world” (Shuttleworth, 2008).

Definition of cases

For the AAS evaluation we will focus on two types of cases: "**roll-out**" cases and "**research project**" cases. These types of cases constitute the basic building blocks of the AAS program.

We use the term **roll-out case** to refer to the hub-based efforts to formally implement the AAS approach. Primarily funded with W1/W2 resources, roll-out cases allow an exploration of the AAS approach in its purest form (i.e. not encumbered by the legacy of bilateral projects). There are three "first-generation" roll out cases (Bangladesh, Zambia, Solomon Islands) and two "second-generation" cases (Cambodia and Philippines). The basic documentation for the roll-out cases are activity plans which include detailed work plans that specify activities, deliverables and outcomes. There are currently a total of 78 activity plans. In addition there are a number of research reports that are relevant to the roll-out cases.

We use the term **research project case** to refer to an individual research project undertaken by AAS with bilateral funds. These projects typically have specific documentation depending on the requirements of the funding agency (proposals, contracts, reports, etc., referring to objectives, methods, inputs and outputs). There are currently 53 active bi-lateral projects, the majority of which were designed before the initiation of AAS. The evaluation acknowledges that AAS may face limitations in implementing all elements of the AAS RinD Approach in all project cases. Yet, since they form a substantial share of AAS activities and funding, they must be a central element of the evaluation.

Selection of cases

In consideration of the AAS portfolio of activities and in consultation with AAS management, the countries where the evaluation will do field work and will collect information for the case studies are as follows:

Table 5: Planned field visits³⁰

Research hub	Type	Rationale
Bangladesh	First generation	Hub with a lot of "legacy" bilateral projects,
Cambodia	Second generation	New hub with high productivity related research share, observation of first phases of project implementation
Solomon Islands	First generation	Hub with some "legacy" bilateral projects
Zambia	First generation	Hub with the largest amount of W1/2 funding, particularly pronounced gender focus

In addition to the roll-out cases the evaluation will look at a sample of 10 bilaterally funded research projects (i.e. research project cases; Table 6). Research project cases are selected for inclusion in the evaluation based on several criteria. The selection process was designed to:

- Include projects identified by AAS management and staff as being particularly important, innovative and representative of the AAS approach;
- Reflect the portfolio of different activities carried out in AAS with different funding sources;

³⁰ In addition WorldFish headquarters in Penang, Malaysia, will be visited, primarily for purposes of the governance and management evaluation component).

- Include large projects that account for a substantial share of AAS funding sources;
- Cover all research themes and the majority of flagships and hubs.

Table 6: Bilateral projects suggested by AAS for review

Research theme	Project Title	Budget	Start date	End date	Funder
Productivity, Income and Nutrition	Developing inland aquaculture in Solomon Islands SL3756ACI	0.279	1-Oct-11	30-Sep-15	ACIAR
	Myanmar fisheries CA4066ACI and BU10059	0.699	1-Sep-12	31-Aug-16	ACIAR
	Fisheries and nutrition BA3739IFA	0.500	n/a	n/a	IFAD
Resilience	Implementing an ecosystem approach to fisheries in small scale tropical fisheries NR4046ECU	0.229	29-Dec-11	28-Dec-14	EC
	Pacific fisheries (BU10275-278)	0.145 1.182	1-Jul-13	30-Jun-17	ACIAR
Governance	Scaling out community based marine resource governance in Solomon Islands, Kiribati and Vanuatu SL3766ACI	0.324	17-Jun-11	16-Jun-15	ACIAR
	Strengthening aquatic resource governance PE3708BMZ	0.070	1-Apr-11	30-Jun-14	STARGO BMZ
	Wetlands Alliance SIDA Mekong ME1625SID	0.750	n/a	n/a	STARGO BMZ

Implementation and analysis of roll-out cases

The roll-out case studies will be conducted by at least two members of the evaluation team, who will visit the selected countries. The following methodological steps are envisaged (allowing for some case-specific modifications):

- The case studies will start with an intensive review of the entire documentation available on the case (including activity plans, proposals, reports, outputs). Special attention will also be paid to carefully studying the data generated by the M&E systems and reviewing the outputs to date.
- A Process Net-Map will be conducted with the AAS Country Manager and AAS Country Program Team as well as field staff. This mapping exercise, which is a participatory appraisal method, will help the team to better understand all steps involved in the selected roll-out or project case, to identify the stakeholders involved and to understand their role, and to identify issues to be further explored in the course of the case study.
- Based on the Process Net-Map, interviewees will be identified, including researchers, partners, project beneficiaries and other stakeholders. The team will then interact with the identified interviewees using methods, such as focus group discussions, in-depth interviews and other participatory methods. The evaluators use instruments, such as interview guidelines, that will ensure comparability across cases, while allowing for sufficient flexibility in addressing case-specific issues.
- The evaluators may also interact with organizations that are not part of AAS, but pursue similar activities in the respective case study areas. The objective of this interaction is to gain

comparative insights. These organizations may include national research organizations as well as NGOs operating in the same area and working on similar topics.

- At the end of the field work, the evaluators will hold follow-up discussions with the project teams to discuss emerging findings and provide opportunity for feedback.

The field visit will be approximately five days. The schedule for the field visits is presented in Annex 5. Team members will keep extensive notes of their interactions and observations and collect other type of documentation (e.g., maps from participatory exercises).

Based on the field work, the team will first conduct within-case analysis. Each case study will be written up by the teams in a comparable format so that they can subsequently be used for a comparative cross-case analysis. The case study approach is open to discover aspects of AAS that were not anticipated in advance. At the same time, the analysis will seek answers to the following aspects of AAS research:

- Integration of AAS approach with transferred research
- Coherence of field activities with the principles of the AAS RinD approach
- Knowledge gap(s) it seeks to address/formulation of research questions
- Methodology and methods employed in the field (to be compared with the principles outlined in the AAS approach)
- Inclusion of gender and equity approaches
- Staffing and partnerships
- Management processes in place
- Progress to date and project outputs (to date and anticipated)
- Outcomes (to date and anticipated) and their relationship with the AAS IDOs
- Contribution to international public goods (to date and anticipated)

Implementation and analysis of research project cases

Each research project case studies will be conducted by two members of the evaluation team. The following methodological steps are envisaged (allowing for some case-specific modifications):

- The case studies will start with an intensive review of the entire documentation available on the case (including proposals, reports, outputs). Special attention will also be paid to carefully studying the data generated by the M&E systems and reviewing the outputs to date.
- As appropriate AAS research staff, partners and peers will be interviewed.

Based on the documents and interviews the team will first conduct within-case analysis. Each case study will be written up in a comparable format so that they can subsequently be used for a comparative cross-case analysis. The case study approach is open to discover aspects of AAS that were not anticipated in advance. At the same time, the analysis will seek answers to the following aspects of AAS research:

- Framing of the research
- Knowledge gap(s) it seeks to address/formulation of research questions Choice of methodology and methods
- Relevance of outputs
- Quality of outputs

- Coherence within AAS and contribution to the AAS
- Coherence of field activities with the principles of the AAS RinD approach
- Contribution to international public goods (to date and anticipated)
- Inclusion of gender and equity approaches
- Staffing and partnerships

Component 2: Publications review

The AAS Annual Reports (2011-2013) include a list of publications or science outputs which are attributed to the program (Book chapters, Journal Articles, Manuscripts, Policy Briefs and reports).³¹ The list of publications will be updated to the most recent point in time possible. Similar to the review of roll-out and project documents described above, the review of the publications will involve two steps: an assessment relating to all publications compiled in the above list, and a more in-depth assessment of sample of the publications.

Assessment related to all publications

This step will involve the following:

- Classification of the publications by type (such as peer-reviewed journal articles, book chapters, books, manuals, guidelines policy briefs, etc.)
- Classification of the publications by theme, flagship, country, hub and project;
- In case of journal publications: Classification of the disciplinary or thematic orientation of the journal; distribution among journals indicating ranking among disciplinary category, article citations.

This information will be analyzed with a view to providing an overview of the publication activity of AAS, to be disaggregated by flagships, themes and other criteria.

In-depth assessment of a sample of publications

A sample of the publications will be analyzed in more detail. Publications will be assigned to team members based on their area of expertise. This assessment will involve a scoring of the publications based on a set of criteria, which will be adjusted to the type of publication. As further outlined below, this component will provide an essential input in the evaluation of the quality of science. The total number of publications to be included in this sample will be decided after Step 1 is conducted and a better overview of the numbers of publications of different types is available. The sample will include:

- All publications related to the case studies selected under Component 1 above.
- All publications relating to the roll-out activities and projects that were randomly and purposely selected under Component 2 B above.
- A random sample of additional publications, stratified by publication type. The justification for random sampling has been explained above.
- Publications that are identified by AAS management as key publications of AAS and that have not been covered otherwise in the sample.

Documents relating to the impact of AAS

³¹ CGIAR Research Output and Collaboration Study by Elsevier (2014) commissioned by the Consortium Office will provide an analysis of WorldFish publishing track record before AAS was established.

This evaluation acknowledges that a period of three years is too soon to assess impacts of a research program. However, to the extent possible on basis of available documentation, the evaluation will consider impacts from past research that has relevance to AAS (see section on Impact). The case studies (Component 1) will pay specific attention to assessing likely effectiveness based on the case study information. They should in particular allow for an assessment of the first two impact pathways specified by the project (see Figure 1 above). The review of the publications will contribute to an assessment of the third impact pathway. Regarding achievements to-date, AAS has already published documents with quantitative information on the effects of AAS activities claimed to be achieved. Taking this into account, the evaluation will include the following types of documents:

- Narratives on impacts from WorldFish research relevant for AAS and from AAS activities (including early outcomes and influence);
- Pre-AAS impact studies and AAS impact documentation as evidence supporting the narratives.

The review of these documents will not only include an assessment of the type and magnitude of impact achieved or expected to be achieved, but also an assessment of the methods by which the impact assessments have been carried out.

Component 3: Research staff survey

The team will conduct a staff survey of all researchers employed by a WF, Bioversity and IWMI – or any other organization – who have some staff time paid for by AAS. The survey will be implemented electronically using an application such as the SurveyMonkey on-line tools, and its results will be presented in a way protecting the anonymity of the respondents. A special effort will be made to reach research staff from partner organizations who are involved in AAS research on the basis of collaborator contracts or other arrangements. We acknowledge that in an action research approach there is also a wide range of co-researchers at community level who cannot be reached through an electronic survey. Effort will be made to interview representative group of co-researchers during field visits.

Component 4: Interviews AAS members, partners and experts

This component includes interviews to be conducted as part of the case studies (Component 1), during field visits and through virtual means. Interviews will cover representatives of different stakeholder groups as described above in Section 5.2.

The team will develop a list of the persons to be interviewed and interview guidelines for the different types of respondents. Detailed notes of every interview will be kept. The team will respect the right of any interviewee to remain anonymous. To the extent possible, personal interviews will be held during the visit to the AAS Headquarters in Penang, during the country visits or using other opportunities. Where this is not possible, interviews will be held by skype or phone, and these interviews will be timed mostly after the team has had the opportunity to observe AAS activities in the field and through the case studies.

Methodological frameworks for selected topics

The information and data collected through the four components outlined above will provide the basis for the evaluation of all evaluation criteria and topics.

Below, the assessment frameworks are presented for four topics: quality of science, impact gender, and governance and management where consistency across CRP evaluations is being established.

Quality of science assessment

The framework for evaluating Quality of Science has four dimensions: (i) processes for assuring quality; (ii) input quality; (iii) output quality; and (iv) perceptions of quality.

Processes for assuring quality

This assessment will be done at the AAS program level with a focus on assessing how science quality is managed in AAS. The evaluation will look at all internal processes that are explicitly aimed at assuring quality. These may include:

- Internal peer review processes;
- Use of commissioned evaluations/reviews or external advisory groups;
- Staff performance assessments (by participating centers);
- Incentives and staff development aimed at enhancing science quality;
- Mentoring and capacity development among co-researcher groups in the flagships;

Input quality

This assessment will be done at the level of the Flagships projects and cover both roll-out activities funded under the W1/W2 windows as well as bilaterally-funded projects. The case studies (Component 1), the sample-based document review (Component 2.2), and the staff assessment (Component 3) will play an important role in this regard. The assessment aims at identifying variability within the CRP, highlighting areas of excellence and identifying areas where improvements could be made. ISPC comments on science quality in relation to the original 2016-2016 extension proposals will be taken into account. The analysis will take the specific requirements of the AAS RinD approach into account and focus on the following aspects:

- Track record and competence of team leaders (using, for example, h-index);
- Composition and competence of teams;
- Quality of research proposals; appropriateness and innovativeness of research designs; and
- Quality of data collection and management.

For research staff employed by the CGIAR centers who spend a substantial share of their time on AAS (to be specified, depending on the available information), information will also be collected from CVs. This information will include education (level, discipline) and length of professional experience. Together with information from the staff survey, this will contribute to assessing the human resource capacity available for AAS.

Output quality

This assessment will be done at the level of the Flagship projects and of the overall program. The evaluation will look at both the quantity and the quality of outputs, covering major types of outputs including those that resulted from research by participating Centers, when relevant. The review of outputs of the sampled projects and review of sample publications will contribute to this assessment. As in case of input quality, the assessment aims at identifying variability within CRP, highlighting areas of excellence and identifying areas where improvements could be made.

Perceptions of quality

The evaluation will also draw on perceptions of the quality of AAS research outputs, particularly among peers in both the social and technical sciences. Other aspects will include the overall reputation for science quality. Comparisons will be primarily internal, looking at AAS components; and, to the extent possible, also external, looking at suitable comparator organizations and against peer expectation of quality of international research of excellence, taking the specific nature of the AAS approach into account.

Impact assessment

Impact here is defined to include results along the impact pathway beyond delivery of outputs; e.g. adoption, influence, outcomes and longer-term impacts towards the CGIAR goals. These are mostly related to research done by the lead center prior to AAS on “transferred” research but may include early outcomes from AAS activities.

AAS will be asked to develop a narrative around relevant "impacts" of past research that are relevant to AAS. The narrative should incorporate claims made regarding the volume, scale and level (along the impact pathway) of the results which can be supported by evidence. The cut-off date will be 2009, the date of the most recent External Program and Management Review (EPMR) of WorldFish. Different data collection methods will contribute to the impact assessment, as has been indicated above (see Component 2.4).

These narratives will be assessed against the available evidence. The evaluation will also assess the effort of documenting outcomes and impact, and the overall scale of impacts from past research.

Gender assessment

AAS has made gender a theme in its own right (Theme 4: Gender Equality) and it is expected that gender will be integrated into all of the other themes. With the ultimate goal of gender transformation, AAS has aimed to undertake strategic research to facilitate change in gender norms, attitudes and practices. It has also supported innovation and experimentation to operationalize concepts and develop tools and systematically test interventions to understand what works.

The evaluation of the gender component will focus on a study of methodologies and tools that have been used, results already obtained and potential for longer-term impact. The approach will include the following:

- i. Qualitative case studies - all case studies will include a gender component, examining the extent to which AAS has integrated gender concerns into research design and research outcomes. In addition, at least one case study will focus specifically on gender research, giving special attention to examples of innovation and experimentation.
- ii. Document review – all document review will take note of the extent to which gender concerns have been integrated into the work of AAS. Gender publications will be critically reviewed.
- iii. Staff assessment – staff competency in the area of gender research will be assessed. Special attention will be given to efforts to build staff competency in gender research.
- iv. Interviews – key researchers and partners, will be asked about the gender-related work that has been done by AAS and to give their own assessment of strengths and weaknesses. Questions on gender will be integrated in the interview templates.

ANNEX 2: EVALUATION MATRIX

Areas of interest	Specific questions	Sources of evidence
Overarching questions	<ol style="list-style-type: none"> 1. What in the AAS approach to research is new, innovative and/or unique in the context of agricultural research and the CGIAR? 2. How does the AAS approach to research draw on earlier and on-going work, especially participatory action research approaches, from inside and outside the CG? 3. What progress has been made so far in developing and implementing the AAS approach to research? 4. What are the challenges faced while implementing the AAS approach and are there any missing links or actions, which could help to make the AAS approach more effective? 5. To what extent is the AAS approach better suited than other research approaches to meet the challenges faced by people living and working in AASs? To what extent is it better suited to reach marginalized groups and women and to address the inequities they face? 6. Is the AAS approach to research, as it is being implemented in the various hubs, likely to deliver international public goods and the identified IDOs? 7. What are the comparative advantages and the added value of the CGIAR via AAS in developing and implementing this approach to research in aquatic agriculture systems? 8. To what extent is the AAS approach a model for other CGIAR research programs, especially with regard to the CGIAR reform goal to move from a “supply-driven” to a “demand-driven” mode of research? 9. How do partners and networks understand, and are likely to make contributions to the implementation of the AAS approach for producing desired outcomes and achieving objectives? 	These questions cut across the criteria and are to be addressed through synthesis of the data analysis shown below and the evaluation findings and
Research / Programme Performance		

Evaluation of CRP Aquatic Agriculture Systems, Inception Report, OCT 2014

Relevance	<ol style="list-style-type: none"> 1. Is the AAS research programme internally coherent and relevant to the SRF? 2. Are the research problem identified and outputs relevant to the IDOs? 3. Are the research outputs and IDOs relevant to the development challenges facing people who live and work in aquatic agriculture systems? 4. Are the Theory of Change and impact (scaling) pathways relevant and convincing? 5. How much does the AAS research draw on research generated in the CGIAR system and elsewhere? 	<ul style="list-style-type: none"> • Review of documents such as the Strategy and Results Framework, AAS proposal and planning documents, including on IDOs, ISPA appraisals • Review of a sample of roll-out activities and projects • Field visits • Mgt, staff & partner interviews
Quality of science	<ol style="list-style-type: none"> 1. Does AAS create the conditions and incentives, and does it have the facilities and internal processes, to ensure high quality scientific output? 2. Does AAS have the number, quality and level of researchers and research leaders to deliver relevant, high quality scientific output? 3. Are research issues, questions, hypotheses and designs clearly and appropriately articulated and informed by current scientific literature? 4. Do the research outputs reflect the level of expenditure, and are they of high quality? 5. What is the value added to AAS research outputs of the AAS research approach? 	<ul style="list-style-type: none"> • Output database (in-depth review of sample of outputs) • Review of documents, such as ISPC and CP appraisals • Review of a sample of roll-out activities ad projects • Bibliometric analyses • CGIAR Research Output and Collaboration Study 2014 by Elsevier • Analysis of staff track record • Field visits • Staff survey • Expert interviews • Mgt, staff & partner interviews
Likely effectiveness	<ol style="list-style-type: none"> 1. Is AAS likely to be more effective in developing and demonstrating an alternative approach to development-oriented agricultural research? 2. Is AAS likely to be more efficient in delivering international public goods (i.e. through Impact/Scaling pathway 3)? 3. Is AAS likely to be effective in contributing to the IDOs it has identified (i.e. through Impact/Scaling pathways 1 and 2)? 4. Is AAS likely to be effective in fostering and contributing to "transformational change"? 5. Have the potential factors identified which may obstruct AAS to be effective? 6. What evidence or early indications are available to indicated potential or likely 	<ul style="list-style-type: none"> • Output database (in-depth review of sample of outputs) • Review of documents such as Annual reports, progress reports, M&E documentation • Review of impact pathways and theories of change • Review of a sample of rill-out activities and projects

Evaluation of CRP Aquatic Agriculture Systems, Inception Report, OCT 2014

impact of AAS research?

- Field visits
- Staff survey
- Expert interviews
- Mgt, staff & partner interviews

Impact

1. To what extent has AAS been influential and generated impacts to-date?
2. To what extent have impacts been demonstrated from "transferred research"?

- Review of evidence of achievements and impact
- M&E system
- Mgt, staff & partner interviews

Other areas

Gender

1. To what extent has strategic research in gender facilitated change in norms, attitudes and practices?
2. To what extent is AAS operationalizing gender concepts and developing new tools?
3. Is AAS using innovative approaches and if so, are they systematically testing innovations to understand what works?
4. What is the potential for replication and scaling-up of AAS's gender research?

- Review of AAS gender strategy and other documentation
- Review of a sample of roll-out activities and projects
- Field visits
- Focus groups
- Staff survey/ interviews
- Expert interviews
- M&E system

Partnership

1. Are the criteria or scrutinizing process used appropriate for selecting partners?
2. Has AAS identified new partners with whom WorldFish has not worked in the past?
3. Are the partnerships appropriate for the research?
4. Are the partnerships effective in delivering the research?
5. Are the partnerships satisfactory to the partners?
6. Are the levels of collaboration within AAS and with other CRPs appropriate?

- Documentation on partnerships
- Review of a sample of roll-out activities and projects
- Field visits
- Focus groups
- Mgt, staff & partner interviews

Evaluation of CRP Aquatic Agriculture Systems, Inception Report, OCT 2014

Capacity building	<ol style="list-style-type: none"> 1. To what extent do AAS capacity development strategy and activities address partners' needs? 2. How effectively does AAS capacity development address the needs of different social and professional categories? 3. Are capacity issues and constraints adequately considered in the impact pathway analysis? 4. Are the regular needs assessment and capacity development processes in place? 5. Have the capacity development activities been relevant and effective? 6. How does AAS capacity development address the "capacity to innovate"? 7. Does AAS create opportunities for MA/MSc and PhD students? 8. Are capacity building opportunities equally available to men and women? 	<ul style="list-style-type: none"> • Review of documents and records on capacity development • Focus groups • Mgt, staff & partner interviews
Management & governance		
Management & governance arrangements	<ol style="list-style-type: none"> 1. Are the governance and management arrangements appropriate (e.g. in terms of legitimacy, accountability, transparency)? 2. Are the governance and management arrangements effective? 3. Are the governance and management arrangements efficient? 4. Do those involved in governance and/or management of AAS perceive that the reformed CGIAR organizational structures and processes have facilitated implementation? 5. Do both men and women have a strong voice in management and governance of AAS? 6. To what extent does AAS have good financial management, budgeting and reporting? 	<ul style="list-style-type: none"> • Review of agreement documents, terms of reference and membership or different oversight and management bodies • Review of meetings minutes, including the lead Center Board, AAS governing bodies etc. • Review of financial documents, audit reports, documents related to resource allocation • Review of relevant policies • Staff survey • Interview including relected Fund Office and Consortium Office staff, members of AAS oversight and management bodies, staff in participating centers and partner orgnaizations, theme and Flagship leader
The M&E system	<ol style="list-style-type: none"> 1. Is the M&E system in place and functional? Are there any unique or novel aspects to the M &E systems in place within an action research approach? 2. To what extent is the M&E system generating relevant information on 	<ul style="list-style-type: none"> • Review of progress reports and other documentation • Mgt & staff interviews

Evaluation of CRP Aquatic Agriculture Systems, Inception Report, OCT 2014

progress and achievement and is that information effectively used?

3. What role does the M&E system play in validating impact claims?
4. What role does the M&E system play in extracting international public goods from the programme's place-based research?

ANNEX 3: LIST OF PERSONS CONSULTED IN INCEPTION PERIOD

Name	Organization	Position
Peter Gardiner	ISPC	Executive Director
James Stevenson	ISPC	Agricultural Research Officer
Patrick Dugan	WorldFish	AAS Director
Charles Crissman	WorldFish	M&E Leader
Boru Douthwaite	WorldFish	Program Leader, Knowledge sharing and Learning
Bill Downing	WorldFish	Head, Operation and Program Support Unit
Ranjitha Puskur	WorldFish	Program Leader, Gender & Equity
Sonali Senaratna	IWMI	Organizational Representative
Andrea Roderick	CARE	Organizational Representative
Fabrice De Clerk	Bioversity International	Organizational Representative
Rachel Sauvinet-Bedouin	IEA	Director
Kwesi Atta-Krah	HumidTropics CRP	Director

ANNEX 4: EVALUATION TEAM PROFILES

TEAM CO-LEADERS

Regina Birner has been the Chair of Social and Institutional Change in Agricultural Development at the University of Hohenheim (Germany) since 2010. She has more than 20 years of experience in agricultural research for development and has conducted numerous research projects in Asia and Africa. She was the leader of IFPRI's Research Program on "Governance for Agricultural and Rural Development". Dr. Birner has acted as advisor to many international organizations, including the World Bank, FAO and USAID and participated in evaluations. In 2008 she served in the core author team for the World Development Report. Her research focuses on socio-economic issues in the context of agricultural development, including topics such as participatory research, institutions, knowledge and innovation, gender. Dr. Birner has a PHD in Rural Development from University of Göttingen.

James Sumberg is a Research Fellow at the Knowledge, Technology and Society Team, Institute of Development Studies (IDS) at University of Sussex. He is an agriculturalist by training, with PhD from Cornell University on Plant Breeding and Animal Nutrition, and has over 25 years of experience of research on small-scale agriculture, natural resource management, agricultural research policy, and food and rural development in tropical regions, with a particular emphasis on sub-Saharan Africa. He has participated in evaluation of agriculture and natural resource management projects. His past work experience includes, among other, The New Economics Foundation in London, University of East Anglia (Senior Lecturer in NRM) and CARE, and brief periods in WARDA and CIAT. He has published on change in agricultural systems, innovation and policy.

TEAM MEMBERS

Ram Bhujel is currently Senior Scientist and Affiliated Faculty Coordinator for the Aqua-Internship and Training Program in Aquaculture and Aquatic Resources Management at Asian Institute of Technology (AIT). He has long standing experience in the field of small—scale and commercial aquaculture and integrated farming with vegetables and livestock. He has been working as project coordinator for several aquaculture development projects in Asia and is currently coordinating the Agricultural Learning Experience for Asian Regional Networking (AgLEARN) project funded by USAID/RDMA and the Development Rural Aquaculture through Entrepreneurship in Women in Myanmar (eWomen) funded by the Foreign Ministry of Italy. He also served in several community and industry engagement projects. Mr. Bhujel has a PhD in aquaculture.

Nadarajah Sriskandarajah (Sri) has been Professor in Environmental Communication at the Swedish University of Agricultural Sciences in Uppsala, Department of Urban and Rural Development since March 2007. Sri has held university positions in Sri Lanka, Australia, Papua New Guinea and Denmark and worked on projects in a number of countries in Asia, Africa, Latin-America and Europe. His research deals with the challenge of complexity at the human-nature interface, within a variety of contexts ranging from farming and food systems to forestry and nature conservation. His

approach is essentially systemic, inter-disciplinary and learning-oriented with action research as an apt descriptor to much of his recent work. He has published widely in the field of action research, learning and farming systems. He has a PhD in Animal Husbandry from University of Sydney, Australia.

Eva M. Rathgeber is a consultant in international development. From 2002-2006 she held the Joint Chair of Women's Studies at the University of Ottawa/ Carleton University in Ottawa, Canada and she continues to serve as an adjunct professor at both universities. She spent many years with the International Development Research Centre (IDRC), starting as a program officer in science and technology, and later became founder and director of IDRC's Gender and Development Program. From 1992-2001, she was IDRC Regional Director for Eastern and Southern Africa, based in Nairobi, Kenya. She continues to work closely with many international organizations, including FAO, IAEA, UNESCO, the African Virtual University, and the CGIAR system. She has published widely on science and technology policy, knowledge production, gender and development, and gender and natural resource management. She currently serves as chair of the Steering Committee of the Gender and Water Alliance.

Felix von Sury has extensive experience in international and development cooperation. He served for 13 years in the SDC, Swiss Agency for Development and Cooperation, Swiss Foreign Ministry, where he was among others Country Director for Nepal and Division Head for Eastern Europe. From 2000 until 2011 he was Executive Director of Intercooperation, a major Swiss development NGO active mainly in the fields of renewable natural resources, agriculture, forestry and climate change. Long-term assignments have taken him to Peru, Australia, Nepal and India. Since 2012 von Sury has been a freelance consultant. He has a PhD in Agricultural Science from ETH Zurich.

ANNEX 5: MEMBERS OF EVALUATION REFERENCE GROUP

Name	Position/role
Patrick Dugan	AAS Director
Remo Gautschi	WorldFish Board Chair; former Deputy Director-General of the Swiss Agency for Development and Cooperation (SDC) of the Department of Foreign Affairs
John Lynam	POP member, ICRAF Board Chair; Independent consultant, agricultural economist
Barbara Schreiner	POP member, IWMI Board member; Director, Water Resources & Management Consultant Pegasys Strategy and Development South Africa
John Mayne	Independent advisor, evaluation
Philip Chiverton	Research Secretary Unit of Research Cooperation Swedish International Development Cooperation Agency (Sida) SE-105 25 STOCKHOLM, Sweden
Ann Waters-Bayer	Agricultural sociologist, ETC-International; research partner
Jürgen Anthofer	Executive Secretary, EIARD
Rieky Stuart	Executive Director, Oxfam, Canada; gender perspective

ANNEX 6: FIELD VISITS

Schedule of field visits

Country	Flagship project	Evaluation team member					
		Sri	Eva	Ram	Felix	Regina	Jim
Asian Mega Deltas							
Bangladesh	Southern Polder Zone	Early Nov	Early Nov	Early Nov	Early Nov	Early Nov	Early Nov
Cambodia	Tonle Sap			Mid Nov			Mid Nov
Asia-Pacific Islands							
Solomon Islands	Malaita & Western Provinces						Mid Nov
African Inland							
Zambia	Barotse floodplain		Early Oct			Early Oct	
Global							
Global	Penang				Early Nov	Early Nov	