

# Expanding Roles of Men and Women in Aquatic Agricultural Systems in the Philippines

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## Abstract

This paper is an attempt to describe the expanding roles of women and men in eight areas, five in the Visayas and three in Mindanao, that are potential pilot areas for the CGIAR project on Aquatic Agricultural Systems (AAS) in the Philippines. Data were obtained from Focus Group Discussions conducted between August and October 2012 with fishers, farmers, and women in the potential sites during the pre-scoping study on the drivers and trends of development in Visayas and Mindanao for the CGIAR Project. Results show men and women increasingly complement each other in reproductive and productive roles, thereby forging a stronger partnership both in the home front and in income generating activities, primarily in farming and fishing, to combat poverty and improve the family well-being. The greater need to diversify livelihoods due to climate change has also been found to further require the expanding roles of men and women. Women have also become more active in community endeavors, although men have been found to maintain lead roles in the community.

## Introduction

More than half of the Philippine population is found in coastal areas where the Aquatic Agriculture Systems (AAS) are located. AAS are “diverse farming systems where families cultivate a range of crops, raise livestock, farm or catch fish, gather fruits, and harness natural resources such as timber, reeds and wildlife” (WorldFish 2011). AAS are considered naturally highly productive but many of the people living in these areas are poor. Multiple constraints face the poor that limit their ability to benefit fully from the AAS. One possible constraint is gender disparities. If it is, then efforts towards gender equality need to be strengthened and rigorously pursued in these areas.

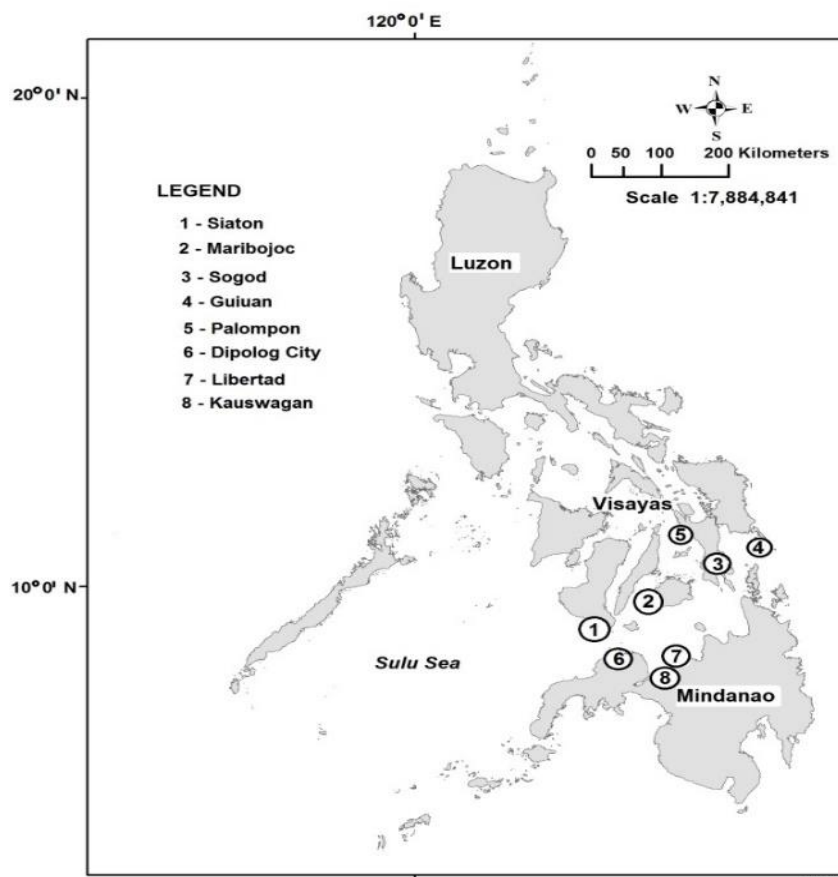
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This paper attempts to describe the roles of women and men in selected AAS sites in the Visayas and Mindanao. The purpose is to gain understanding of the present situation and how people's roles are related to their poverty situation. It is hypothesised that in situations of poverty, women move from reproductive to productive roles and the men move towards reproductive roles.

## Methodology

The data used in this paper came from a bigger data set collected from 32 Focus Group Discussions (FGD) with 77 fishers, 73 farmers, and 71 women from the municipalities of Siaton (Negros Oriental Province), Maribojoc (Bohol Province), Sogod (Southern Leyte Province), Guiuan (Eastern Samar Province), Palompon (Leyte Province), the city of Dipolog (Zamboanga del Norte Province), and the municipalities of Libertad (Misamis Oriental Province), and Kauswagan (Lanao del Norte Province) (Fig.1). The sites were chosen during the pre-scoping work under the WorldFish CRP (CGIAR Research Program) in the Philippines using criteria that include their coastal location, physical accessibility, high number of poor families, and geographic orientation. Within each site, the coastal barangay considered the poorest and where farming and fishing are dominant livelihood activities was selected.



**Fig.1.** Map showing the AAS sites in the Visayas and Mindanao included in the study.

This paper is highly qualitative. The responses of the FGD participants were not quantified but categorised into reproductive, productive, and the community roles. The sites where these roles were observed were identified. Reproductive role involves the bearing and rearing of children and all the tasks associated with domestic work and the maintenance of all household members. Productive roles are performed to produce goods and services for consumption by the household or for income. Community roles are undertaken at the community level to ensure the provision and maintenance of scarce resources of collective consumption.

## Results

### *The AAS communities*

Poverty incidence (which ranges between 24.9% and 55.55%) in the AAS sites was higher than the national average of 22.9% in 2009 (National Statistical Coordination Board 2009). Farming and fishing were the major sources of income. Rice and coconut were the primary agricultural crops. Aquaculture is small-scale or relatively new, while ecotourism is a sunrise industry with great potential as a source of income. The manufacturing sector is small, with home and cottage industries predominating and generally using local agricultural or marine products as raw materials.

### *Profile of the study participants*

Fishers were predominantly male (89.61%), married (90.91%), and between 21 to 72 years of age. Almost the same proportion had elementary education (44%) and had partly done or finished high school (43%); few reached college (13%). They had been fishing for two to 60 years. Their households had one to 12 members. The common gears used were hook and line, *lambat* (gill net), *pana* (spear), *sabay* (eel catcher), fish pot, *bubo* (fish trap) and long line. Few admitted using a compressor to catch fish.

Farmers were predominantly male (75%), married (90%), and between 23 and 80 years old. More than a third (36%) have had only elementary education, but slightly more (45%) of them have reached high school. Their households had one to 12 members. Their main sources of income were rice/corn farming, coconut farming/copra making, root crops and vegetable farming, orchard, poultry, and livestock raising. They have been farming for one to 70 years.

Fishers were members of organisations such as the fisherfolk association, '*Bantay Dagat*' (sea patrol), water services association, electric cooperative, farmers' cooperative and credit cooperative in the municipality or barangay. Meanwhile, the farmers were members of organisations such as the farmers' association, irrigators' association, fisherfolks' association, water services association and multi-purpose cooperatives in the municipality or barangay.

The majority of the women were married (81.69%) and between 23 and 78 years old. Almost the same proportion finished elementary (32.39%), reached or completed high school (33.80%) and had some college education (33.80%). They came from households with two to 10 members. Their main sources of household income were rice farming, fishing, copra

making/coconut farming, vegetable gardening, livestock raising, business, fish/food vending, food processing, laundry services, salaried jobs and dressmaking. They also worked as housekeepers and labourers for which they acquired wages and they were also supported by remittances from family members. They were members of organisations such as the multi-purpose cooperative, irrigators' association, religious organisations, fishers and farmers' association, and the women's club in the municipality or barangay where they resided.

### ***Gender roles of women and men***

#### ***Reproductive roles***

Men and women share household activities including cooking and looking after their children (Table 1). They aspire to provide good education for their children and adequate food for the family. Among household-beneficiaries of the Conditional Cash Transfer (CCT) Program, the husband and wife make sure their children go to school or avail of preventive health care and nutrition services to ensure continuously receiving of direct cash transfers. In some cases they leave their children with grandparents when they go to work.

**Table 1.** Reproductive roles of women and men in AAS sites.

| <b>Women</b>                                                                                                                                                                                                                                               | <b>Men</b>                                                                                                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mother and wife: Care and maintenance of the family                                                                                                                                                                                                        | Father and husband: Care and maintenance of the family                                                                                                                                                                                                                                          |
| <ul style="list-style-type: none"> <li>• cook food</li> <li>• take care of small children</li> <li>• clean house</li> <li>• wash clothes</li> <li>• make sure children go to school, receive appropriate health care (especially if CCT family)</li> </ul> | <ul style="list-style-type: none"> <li>• cook food</li> <li>• take care of small children (especially when the wife is out working )</li> <li>• wash clothes</li> <li>• make sure children go to school, receive appropriate health care (esp. if CCT family)</li> <li>• fetch water</li> </ul> |

#### ***Productive roles***

##### ***Farming***

In rice farms, men take care of farm preparation, men and women plant and women lead in farm maintenance (Table 2). The women prepare food for the farm workers to ensure cost efficiency and nutritional balance. Negotiations on renting of farm machines such as in Kauswagan, are women's turf. They also participate in the budgeting of fuel. In Sogod, drying of palay by the road is the domain of women; they do the job with the older children. These are the few sacks of palay left for milling and household consumption as the rest of the harvests have been used to pay for debts incurred for farm inputs.

In coconut farms in Sogod, Guiuan, Kauswagan and Libertad, postharvest activities are done by women and men. Men dominate in harvesting, but harvesting from shorter trees involves

women. Men and women help each other in the hauling and piling, dehusking, and splitting the coconut into half. Drying the coconut and scooping the coconut from its shell are domains of women. Moreover, women prepare the food for the workers. Marketing of copra in Sogod and Guian is dominated by women. Aside from allowing them to practice their marketing skills, the role ensures that earnings are spent for food and other needs of the family.

**Table 2.** Productive roles of women and men in AAS sites.

| Women                                                                                                                                                                                                                                                                                                                                                                                                        | Men                                                                                                                                                                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Rice farming</b>                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                     |
| <ul style="list-style-type: none"> <li>• Help in negotiations for acquiring farm inputs</li> <li>• Join contracting system to prepare the field for planting (plough field), planting (or help in bundling the seedling)</li> <li>• Cook food for the workers</li> <li>• Dominate maintenance of farm</li> <li>• Help in harvest and in selling produce</li> <li>• Dominate drying sacks of palay</li> </ul> | <ul style="list-style-type: none"> <li>• Dominate land preparation (buy inputs, prepare farm for planting)</li> <li>• Dominate actual planting</li> <li>• Dominate harvest</li> <li>• Dominate marketing</li> </ul> |
| <b>Copra making</b>                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                     |
| <ul style="list-style-type: none"> <li>• Climb short coconut trees when ladder is available</li> <li>• Help in hauling and piling, removal of husk, and splitting the coconut into half</li> <li>• Cook food;</li> <li>• dominate drying the coconuts (under the sun or fire), scooping the coconut</li> <li>• dominate marketing</li> </ul>                                                                 | <ul style="list-style-type: none"> <li>• Climb coconut trees</li> <li>• Help in hauling and piling, removal of husk, and splitting the coconut into half, and drying</li> </ul>                                     |
| <b>Vegetable gardening</b>                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                     |
| <ul style="list-style-type: none"> <li>• Dominate planting, maintenance, harvest and selling</li> </ul>                                                                                                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>• Dominate land preparation</li> </ul>                                                                                                                                       |
| <b>Fishing</b>                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                     |
| <ul style="list-style-type: none"> <li>• Help in preparing for fishing trip</li> <li>• Mend nets</li> <li>• Help in paddling the boat to fishing ground</li> <li>• Help in actual fishing</li> </ul>                                                                                                                                                                                                         | <ul style="list-style-type: none"> <li>• Prepares for the fishing trip</li> <li>• Paddles boat to fishing destination</li> <li>• Leads actual fishing</li> <li>• Mend nets</li> </ul>                               |
| <b>Marketing of fish and fishery products</b>                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                     |
| <ul style="list-style-type: none"> <li>• Help in cleaning, drying, storing</li> <li>• Dominate marketing of fresh and dried fish as fish broker/trader, retailer</li> </ul>                                                                                                                                                                                                                                  | <ul style="list-style-type: none"> <li>• Help in cleaning, drying, storing</li> <li>• Help in transporting the produce</li> </ul>                                                                                   |

Meanwhile, vegetable farming such as in Guiuan, Libertad, Palompon and Kauswagan, is a female domain. Men take charge of plot preparation but women dominate planting, farm maintenance, harvesting, and marketing.

### **Fishing**

Fishing has evolved into a husband and wife tandem activity in Palompon, Sogod, Libertad, Dipolog City, Guian, and Kauswagan. The wives help their husbands in manually paddling the boat to the fishing area, setting gillnets, holding the torchlight and in removing the trapped fish

from the net. In sardines fishing in Dipolog City, wives are members of the four-person crew especially during the peak season for sardines from March to June. A wife does what other crew members do and earns 25% of the income from the activity, enabling the husband and the wife to take home a 50% share of income. Moreover in Guiuan, fishing for sea cucumber is a family affair so that earnings go solely to the family.

In Guiuan and Dipolog City, men and women are involved in fish deboning and drying of '*danggit*' (rabbitfish). The men clean the fish and the rest of the processing is left to the women and children. In Libertad, the women make *ginamos* (fish paste) out of the catch of anchovies of their husbands and have made a community enterprise out of it.

Marketing of fish is dominated by women in Sogod, Guiuan, Palompon and Dipolog City. The marketing skills of women are also acknowledged in other larger scale ventures such as those found in Dipolog City, four of the 12 fish brokers are women.

### ***Other livelihood activities***

In Libertad, women are also engaged in making and selling banana chips, fried bananas and other snack items. They also gleaned with their children, to allow children to add to family income. In Kauswagan, women also engaged in operating a small *sari-sari* store or eatery, direct selling of cosmetics and intimate women's apparel, cooking and selling popcorn and peanut products, engaged in shell crafts and in making small Christmas *parol* or lanterns, among others.

In Guiuan, women play a major role in the community industry known as *Paragbato* ("*tiktik ng bato*"). Men would look for coral boulders and haul their find home, leaving the women to pound these to small pieces without the benefit of wearing protective gears. Half a sack of the product is sold for PhP 15. The sacks used are the empty cement sacks obtained from construction sites. The women could sell at least 25 sacks a day of the pound coral, which are mainly used for ornamental purposes in building and construction works.

Surplus labour in fishing communities is a major reason for fishers taking up other jobs like driving '*habal-habal*' (motorcycle ferrying as many as five passengers) or '*trisikad*' (bicycles with sidecars), carpentry, and in road repair and road widening projects. Some women also rendered home services. In such circumstances it was common for men to tend to household chores.

### ***Community roles***

Barangay officials are generally men but it is common for women to be elected or appointed as secretary, treasurer and auditor (Table 3). Membership of women in community organisations is increasing. Almost an equal number of men and women constituted the 1057 members of one of the irrigator's association in Dipolog City.

Women have also risen to positions previously held only by men. In Libertad, a woman heads the farmers' organisation. In Dipolog City, a woman headed the local fisheries law

enforcement group for nine years. Her team of 35 fishers who volunteered their services included five women. In Libertad and Guian, there were also women law enforcers for the fish sanctuary.

**Table 3.** Community roles of women and men in AAS sites.

| Women                                                                                                                                                                                                                                                                                                                                                                           | Men                                                                                                                                                                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Barangay officials (secretary, treasurer, councilor)</li> <li>• Members of the irrigators association. In one irrigators association with 1057 members-- 50% women and 50% men; member or officer</li> <li>• <i>Bantay Dagat</i> (Sea patrol group); in one site, the head is a woman</li> <li>• Member of religious groups</li> </ul> | <ul style="list-style-type: none"> <li>• Barangay officials (punong barangay, councilor)</li> <li>• Irrigators association – member or officer</li> <li>• <i>Bantay Dagat</i> (Sea patrol group)</li> <li>• Member of religious groups</li> </ul> |

## Discussion

The results have to be understood within the context of the selected AAS areas. These are generally areas where fishing and farming are the main livelihood activities and where incidence of high poverty is a major feature. The constant confrontation with poverty increasingly pushes women and men to become partners in income-generating activities to keep the household economy afloat. Necessity as well as choice has caused a blurring of the conventional reproductive and productive dichotomy of roles women and men play. The emerging role transformation shows that people understand that a diversified livelihood is more resilient than an undiversified one. This understanding is shared by members of the AAS communities studied, lending support to what Ellis (2000) earlier said as a critical attribute of people living on the margin of survival.

This diversification is seen as a function of several factors. The returns to labour and time of men and women, which implies the factoring in of certain skills or characteristics (e.g. strength, patience) possessed by either, is one such factor. Risks associated with production efforts of the household, such as those resulting from climate change also affect the decision to broaden gender roles. Opportunities offered in the larger economic context, such as those provided by government assistance programs, similarly lead to the rational decision to expand income sources.

Evidence pointing to men assuming more of the reproductive role (taking care of small children and doing household chores) to allow women to be engaged in more productive work is significant. The opportunity cost of women's time appears to be at work in cases such as this: where women are able to earn more income from productive endeavors – and therefore contribute more to household welfare – the more they spend time for productive work.

Out-migration for varying periods of time to take advantage of better earning opportunities and send home remittances were previously only the domain of men, but in the AAS communities studied there is a rising phenomenon among women (young and married) to go to the urban areas to find employment as salesladies or caregivers. The presumably higher returns in the cities act as

the pull factor and forces the male sibling or husband to take care of the children and perform reproductive roles in addition to tending to his own productive endeavors.

On the other hand, climate change disrupts rainfall patterns and has added more risks to farming. It has also affected the number of fishing days per year. These increasing risks to sources of livelihood have thus compelled the AAS households to compensate for anticipated or actual losses by adopting contingency income sources, a strategy consistent with those done by poor households facing the same circumstance as observed by Alderman and Paxson (1992). The Focus Group Discussions revealed that the livelihood diversification scheme put in place invariably and consciously included more production efforts for women; on many occasions they are doing activities not related to the household's primary income source, mainly to spread the risk. Women therefore may run a *sari-sari* store or a small eatery, engage in direct selling and more. Meanwhile, men are also engaged in other activities not related to fishing or farming. While these endeavors form part of risk-spreading activities, they also point to the existence of surplus labour in AAS communities.

Interactions between household decisions to allow women to play a bigger productive role and trends in the larger economy are also becoming apparent. The extension of credit by government agencies to rural organisations has pushed women to organise quickly and meet credit requirements. The production of fish paste, and processed peanut and banana products by women are examples of productive endeavors by organisations of women. The women themselves recounted how credit reinforces diversification of income sources, promotes value-addition and even provides motivation for them to go further.

The Conditional Cash Transfer Program of the government seems to have enlisted the cooperation of the targeted beneficiaries in the AAS communities as husbands and wives have become partners in making sure their children go to school and receive the required preventive health care and nutrition services. As intended by the program, a circumstance is being created that will yield both immediate and long-term effects on household welfare, the former through the cash transfers and the latter through human capital enhancement. However, this is an area requiring a more focused and in-depth analysis.

Household efforts in cutting costs or maximising returns also result in men and women spending time together doing productive activities. Women's active involvement in agriculture has been noted in past studies (Lu 2010; Chiong-Javier 2009; Romero-Paris 2009). Similarly, in copra production in AAS sites, with technology producing shorter coconut tree, more women could be taking over from men in climbing the coconut trees.

In fishing, the wife helping the husband in actual fish catching is a new phenomenon to ensure that more fishing income comes to the family. This is also a reflection of limited, if not lack of employment opportunities in the area. These results are similar to the findings of past studies showing women's significant involvement in fish capture (Santiago 2008; de la Cruz 2005; Jimenez 2004) but in contrast to the findings that actual fishing is "male-dominated" or that there is little involvement of women in fish capture (Sumagaysay 2005).

Women contribute significantly in the marketing of fish catch or farm harvests. Returns to labour time, particularly when the women have certain skills, is an obvious reason for this. House-to-house peddling, which reportedly results in higher revenues, is also a forte of women and seen as an alternative to selling wholesale to compradors/traders who dictate prices.

The contribution of women, however, is still not recognised by formal institutions and knowledge generators. According to Santiago (2008), the 27.3% share of women out of 10.4 million workers in agriculture, hunting and forestry sector in 2004 was likely an underestimation because women's participation in trading of agricultural and fishery products, working in farms, and engaging in micro manufacturing enterprises were likely not considered. The same study reported that the proportion of unpaid family workers includes 54.4% females and 45.5% males.

In community work, partnerships of women and men were already noted by past studies. However, evidence shows women becoming more involved in community work that used to be dominated by men, such as in irrigation associations and in fishery law enforcement.

## Conclusions

Evidence points to changing gender roles in the AAS sites covered by the study. Changes are happening in the home, in work areas, and in the community. With women now doing more productive work than before, it is common among men to take charge of household chores. These changes have to be understood in the context of the AAS where poverty is an everyday challenge. Poverty, climate change, macroeconomic trends, government assistance programs, and the recognition of complementarity of skills of women and men seem to enhance partnership among husbands and wives to improve their household economies. A more in-depth study has to be conducted to further explore this preliminary evidence.

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## References

- Alderman, H. and C. Paxson. 1992. 'Do the poor insure? A synthesis of the literature on risk and consumption in developing countries': Policy Research Working papers No. 1008, World Bank, Washington DC. 50 pp.
- Chiong Javier, M.E. 2009. Health consequences of rural women's productive role in agriculture in the Philippines and other developing countries. *Journal of International Women's Studies* 10 (4): 95-110.
- de la Cruz, M.T. 2005. Women are fishers too. Profile of women fishers in Eastern Samar, Philippines. Proceedings of the third conference on gender and fisheries September 29-30, 2005. Organised by The National Network on Women in Fisheries in the Philippines Inc. (NNWFPI). UP Visayas, Iloilo City.

- Ellis, F. 2000. The Determinants of rural livelihood diversification in developing countries. *Journal of Agricultural Economics* 51 (2):289-302.
- Jimenez, C.N. 2004. Understanding the role of gender in fishing community development .Danyag, UP Visayas *Journal of Humanities and Social Sciences* 8 (1&2):66-68.
- Lu, J.L. 2010. Gender analysis of women in the Philippine agriculture and their occupational issues. *Journal of International Women's Studies* 11 (4):73-82.
- National Statistical Coordination Board (NSCB) .2009. City and municipal-level small area poverty estimates. Available at [http://www.nscb.gov.ph/poverty/2009\\_SAE/2009\\_sae\\_final.pdf](http://www.nscb.gov.ph/poverty/2009_SAE/2009_sae_final.pdf). Accessed 24 June 2012.
- Sumagaysay, M. B. 2005. Gender stratification in fish production systems: Women do have economic power. Proceedings of the third conference on gender and fisheries, September 29-30, 2005. UP Visayas, Iloilo City. Organised by The National Network on Women in Fisheries in the Philippines, Inc. (NNWFPI).
- Santiago, C. 2008. Philippines: country gender profile. <http://www.jica.go.jp /activities/issues/ gender/pdf/j03phi.pdf>. Accessed 24 June 2012.
- Romero-Paris, T. 2009. Women's roles and needs in changing rural Asia with emphasis on rice-based agriculture. [http://www.agnet.org/library.php?func=view&id= 20110725165454&type\\_id=4](http://www.agnet.org/library.php?func=view&id= 20110725165454&type_id=4). Accessed April 01 2013.
- WorldFish. 2011. CGIAR Research Program Aquatic Agricultural Systems, Penang, Malaysia. 8 pp.