

Participatory approach of water management:

introduction:

- The underground water basin constitutes Common resource for all users. The best exploitation of the source can be achieved by organization that regulates the use; otherwise, the users would compete to get more that would harm not only the source but also their real own interests. Each user would think if he does not take what he could, others would do. This contest between the water users, in case not existing of controlling management of the source, could lead in first stage to raising the cost of drilling and pumping for all users when water becomes deeper and deeper and at the extreme end to its complete depletion and exiting the users one by one from production process, as already happened in other basins in Yemen;
- The water exploitation for agriculture use, when there is no controlling organization of the source, may be no effective for the production. Thus, the good management for the source is important not only as an instrument to protect the source but also for leading to raising the yields of agriculture productions via pushing the farmers (water users) to searching best crops and more economic techniques (modern irrigation systems);
- The continuous deterioration of water position in Sana'a basin entails immediate intervention to protect common interest of water users to get the best result of their production processes and to avoid negative aspects that may stem from the deterioration of rural economy in case of complete depletion of basin water;
- As the conventional style of water resources management through NWRA-SB has no chance to succeed, so it is imperative to develop alternative models that allow controlling the water position in the basin and with higher degree of success; Non-central management of the water resources through WUAs is the solution;
- The government through NWRA-SB should encourage the formation of the WUAs and control their activities, and support them, mainly:
 1. Train the WUAs and raise their capacity building in administrative and financial issues, set up the regulations that show the relationship between the stakeholders including NWRA, ministry of agriculture and irrigation ,define their responsibilities and duties;
 2. Define the water balance for each WUA area that make it to allocate the water use and releasing licenses on behalf of NWRA-SB by the amount allowed and control the counters on the wells. WUAs can collect fees for the water extracted and reuse them for benefit of water recharge projects investment and subsidize the introducing modern irrigation systems and extension services for farmers.

Legislation:

- The upper water policy document (Water law) in statement (3) mentioned and emphasized on the role of local stakeholders in water management " *Water law aims at regulation, management, augmentation and rationalization of Water resource exploitation and protect it from depletion and contamination and increasing the effectiveness of transferring and disbursing its usage and bettering the maintenance and operation of its establishments and make the users participate in its management in the stages of its development, investment as well as protect and conserve it*";
- The Law (statement 8) also mentioned that *the basins are regulated on the bases of the principle of Integrated Water Resource Management(IWRM)*;
- The law (10) *permits formation of WUAs, WUGs, committees, federations, unions for beneficiaries and users of water; the goal for them is to participate with the community and the benefited of water to regulate water resources or in operating and maintaining its establishments*;
- The law(11) *gives the Ministry of water the right to establish Water basin committees to participate in regulation of water management with proper representation of relevant NGOs*;

The role of local communities in water sustainable development:

1. According to sound experience, the community sustainable development depends on three factors: external support –ideas and funding (from outside the local community); governmental support (determined policy, directions, motives and incentives); community mobilization and organization (the local members reorganize themselves in Association). In case of water development programs the same way should be working, i. e. water resolving problem would depend on the interrelated pillars mentioned above , in case of lacking one of them the process could not work and the outputs of any interventions would fail;
 2. For the time being external support is really available (technical, material and funding) to support the limited resources of the local communities, but there is real lack to political determination to solve or alleviate the crisis of water depletion, pollution etc. It seems as if the government would do nothing without outsider's pushing or so slow measurements that would lead to nothing. Unless the government shows clearly and frequently its priorities and real willingness to go ahead with the reforms in water sector and promote and encourage other stakeholders to move forward to solve the problem nothing could be done.
- The role of WUAs and their Unions in solving/ alleviating water crisis: :
 1. The communities themselves are the essential player in solving the water problem through self organizing and self controlling the depletion process of water resources. The local communities themselves who are responsible for water crisis and thus they can be main player for solution through reorganizing themselves, taking decisions to reduce the extraction and control water usage;

2. The core perception of Participatory approach means that all players especially the government, donors, all interested NGOs should work hand in hand with water users and all local communities to develop realistic solutions to manage the underground water locally to achieve possible its sustainable use;
3. The government control of the water representing by NWRA-SB never can achieve any good results unless the latest work closely with local communities through their water user organizations (WUAs and federations on the level of basin or sub-basins) and delegate them main responsibilities and duties to do under its overall control and support; that's because NWRA-SB , firstly, could not cover all 14000 well stretched all over the SB, and secondly, will get no support from water users to control their own wells especially when law never could be enforced in county rampant by corruption;
4. WUAs and federations can get technical support and training by NWRA SB staff to enable them deal well with technical issues in water gauging, quality controlling and so many duties that NWRA take care about;
5. WUAs can allocate water extraction for users and can impose fees for over extracting water; In this case WUAs should shift their objectives and portfolio -from service delivery Associations to regulatory and development Associations. This just requires shifting from under one law to another that the Ministry of Social affairs and labor can easily agree with.

1. **Involvement of Local communities:**

1.1. The role of local councils:

- a- Unfortunately, the local councils reflect the government policies and trends as solid part and parcel of the regime. When there is no serious action has been taken by the high government level, they easily get the message to do nothing;
- b- The Law of local authority gives the local councils the right to manage and control the water resource in their areas, and supervise the WUAs, mainly stated in next statements:
 1. Supervision and control implementation of water policies and protection of water basins from depletion and pollution according to the statements of the enforced laws, regulations and directives issued from central authorities;
 2. Encourage formation of specialized cooperatives in different kinds and extend any support to them;
 3. Supervise the activities of the cooperatives and coordinate their plans and actions to the plans of administrative units;
 4. Pay attention to development of water resources through encouragement of establishing dams and dykes and protect them from depletion and pollution according to scientific researches and legislations;
 5. Educate farmers by modern agriculture styles and improvement of irrigation ways;
 6. Coordination the interrelationship between cooperatives organizations and federations formed according to enforced laws;
 7. Discussion of common affairs that concern the citizens and issue relative decisions about them;

- The progress and achievement of water resources participatory management approach under SBWMP:

The SBWMP has started the community participatory approach through:

- Formation of 58 WUAs (46 under demand component and 12 –recharge) that included 1149 WUGs which comprising 11546 water Users (individual members). These WUAs cover the whole area of SB participating in water resource management, in particular they are pursuing fulfillment of the following main duties:
 1. Participate in protection of water resources and conserve it from depletion and pollution;
 2. Participate with other actors in management, protection, augment water resources and achieve their sustainability through enforcement of water law;
 3. Awareness raising among farmers and general public about the importance of rationalize water uses and conserve it from depletion and pollution;
 4. Rationalize water usage in irrigation and raise its effectiveness via introducing modern irrigation systems;
 5. Not expanding irrigated areas and encourage rain-fed agriculture and get use of water harvesting projects and maintenance terraces;
 6. Work on spreading crops that need less water and give more profit;
 7. Work on adopting the water policies, strategies and directions taken on agencies and specialized committees ...and so on.
- These WUAs have got the proper training on different issues specific to raise their capacity building and in result the majority of them are prepared for sustainable development;
- Almost of the WUAs have got their offices built by the project and this would help in ensuring their sustainability ;
- The main thing that the project has done is to enhance the role of WUAs from recipient of the service to the doer of it when shifted the installation mission of modern systems from specialized companies to WUAs that accelerate the process and involved the water users completely in the process;
- The WUAs have participated in management process of the project when they get the chance to discuss the on-going process in the project and the plans in next month's through the frequent broad meetings the project handled for this purpose;
- The WUAs in SB are working hard now to establish their own water federation (after initiating WU Union on the countywide level- October 2009);
- The project also concentrated on the role of women in conserving water in SB through training sessions;

Suitable legislation for WUAs:

All Associations worldwide have voluntary status. Their members have appropriate duties and responsibilities under the membership and get rights and services. They adhere and obey to the rules and fulfill the instructions and resolutions made by the general assembly (annual meeting of all members or their representatives) as well as the executive board.

The real question is, can the WUAs under the Law of Associations and Institutions N1 for the year 2001 deliver advanced services for their members in water sector in case having been delegated some of NWRA-SB duties. And the answer is that they can and cannot. They can in case of delivering services but cannot in case collecting fees and becoming profitable, disbursing profit to the shareholders. In the latest case they should reorganize themselves and reregistered under another law No (39) of the year 1998 for Cooperative Associations within the same Ministry of Social Affairs and labour. Again this question should not be considered as a problem.

local councils

- The project tried to introduce the local councils to water issues through many steps, of them:
 - The project and the heads of local councils agreed to assign representatives from the 8 districts to work closely with the project and participate in fulfilling different activities that the project organizes in districts for the sake of beneficiaries (training, field works etc);
 - The representatives assumed and implemented some activities themselves and in participation with the project according with the plan of action agreed (awareness meetings in schools, raising the water issues in general meetings with local council members etc.);
 - The project included the representatives in the training programs in the country (WEC training on IWRM) and abroad(Jordan experience);
 - Make the heads of LCs sign any contract between the WUAs and the project as well as tripartite contracts with farmers;
 - The project worked on bringing the local councils and WUAs together to discuss the water issues through organizing some meetings;
 - Organized many meetings with them to discuss the process in the project and so on.

The next some facts illustrates the real current picture of LCs role on water conserving, which could not be denied by any one, and that lead to having close conclusion that the central government and then LCs are not serious enough to control and enforce just one statement of the water law concerning the random drilling of wells, and in result, this gives clear impression to public that situation still out of control and any one could misuse the resource:

- (a) Central officials (influential) are the first ones who violate the rules of drilling wells and, of course, no action can be taken against them (they above the rules and judicials) ;
- (b) In case of taking actions by the local Councils against the violators of rules from the ordinary people, the influential direct for releasing the detainees; with frequent incidents the LC became react indifference towards the violators;
- (c) Because of the corruption the local forces use the chance to misappropriate (taking around 1000\$ to protect the violators);
- (d) The project have struggled for long time to convince LCs not to take money from farmers and WUAs heads when signing the contracts that gives them chance to be involved in the process of water conserving;
- (e) LCs action towards the water conserving depends on the personality of the head of LC and his awareness and feeling of responsibility; The newly appointed head of LC in Bani Al- Hareth District(December 2009) after briefing the counterpart within LC who works closely with the project, arranged for visiting the project and met the project Manager and promised him to fight against the random drilling and support

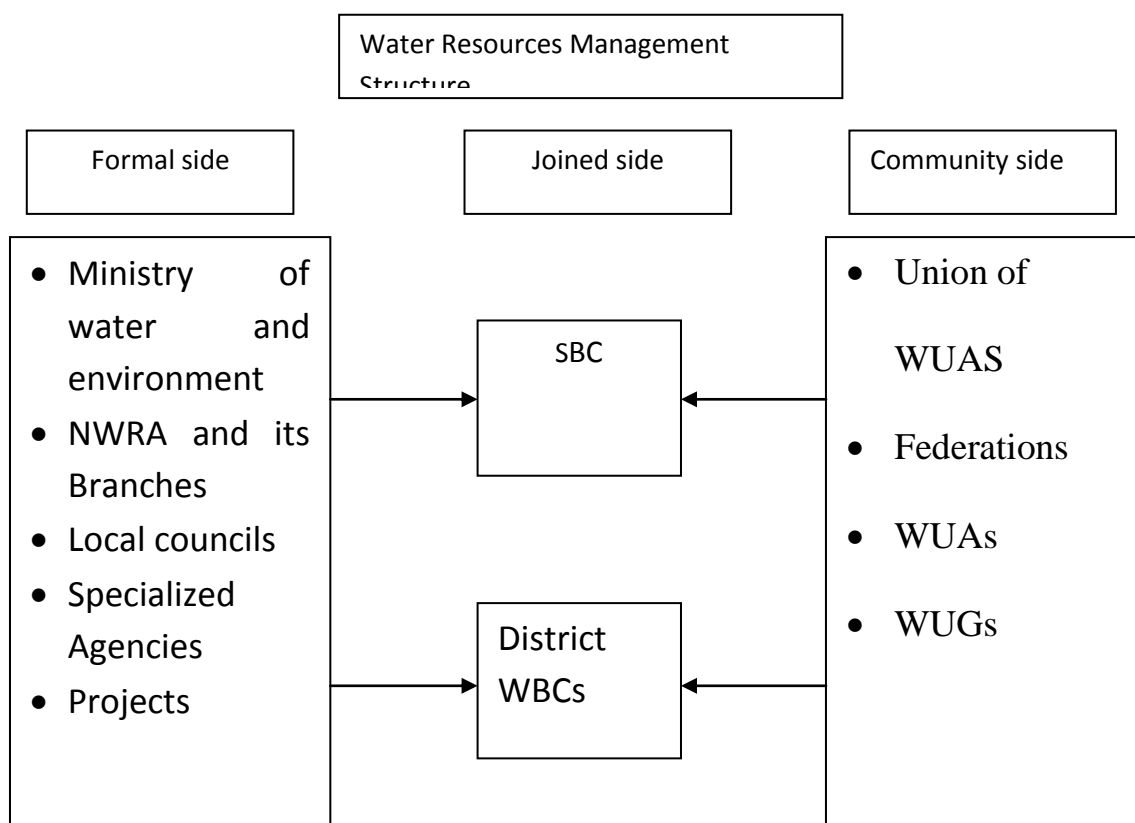
the WUAs. He became good example for others and the hope is still that good heads of LCs may emerge and then do their duties in controlling water conserving situation;

- (f) It's worth mentioning that the project worked hard to convince the heads of LCs to react positively, but unfortunately some of them had been transferred recently to another Districts outside the Basin;
- (g) The heads of LCs(Sana'a Districts) are members of SBC but rarely do they attend the meetings in spite of incentives they may get in case presenting;
- (h) The SBC is not committed enough to deal with water issues: if they convene and take decisions, the latest are not carried out;
- (i) There is clear lack of discipline in all levels and this atmosphere is not conducive for taking and carrying out decisions especially in so complicated sector as water.

From what mentioned above the conclusion about the role of LCs is that it depends on the directions and newly adopted decisions from high central level but not on almost forgotten policies and laws; they do not deal with strategy thinking and long lasting policies but with daily emerging problems and conflicts And then the next cited conclusion is quite right: "All in all, engagement of Local Councils has varied under the project. [Many] have reflected the lack of interest of central government in action on water conservation".

Participatory structure:

- The real situation now in SB that the job done by the project in enhancing the participatory approach is under suspicion of the direct responsible agencies of the water issues, moreover, never really has been done to embrace the WUAs , support, direct , control them;
- Within NWRA-SB has not been yet established specified department to do the needed job with the formed and developed WUAs – to discuss the duties and possibilities of the Associations to control the water situation in their areas; there still no willing to share the responsibilities of NWRA with the already existed WUAs;
- There is evolving structure of participatory approach, but not yet completed. It looks like the next structure:



- The picture of water resources management today shows that community side is almost formed and ready to start serious job to share the formal side its duties and responsibilities in managing the basin but the formal side still reluctant, that's clear as;
 - There are no departments within the formal sides to cooperate and negotiate with the community side and assign and delegate him some duties (despite talks about participatory approach as the solution);
 - There are no representatives in SBC in spite of the PM decree of formation the committee that to gives 4-5 members to WUAs;
 - There is no plans to start using and supporting the WUAs and their Unions; Unless the WUAs come themselves and bother the formal side to extend them services (to advise about randomly well drilling, write letter to MoSA to let them form their Union), there would not be any contact with them;
 - The situation looks as if the Law not enough for initiating the policy in field, every part waiting for direct instructions to do its job and duties- there is clear lack of political determination to start moving towards real solving the problem.

Linkages between the WUA side and the formal establishment are not working smoothly: (1) NWRA is 'not set up to deal with WUAs'; (2) the institutional arrangements are not fully worked out; (3) WUAs are not represented in the Basin Committee [1.7, 3.7]

Links to local government are in place [see above and 1.4, 1.6B] However, these links may not be working too well – LCs 'easily get the message to do nothing' [1.4A]

How far have SB WUAs actually become water managers, and what are the prospects? Experience from elsewhere in Yemen suggests that community action can regulate groundwater [3.7E] But 'internationally, examples of effective groundwater governance are scarce'. [3.7C]

- ❖ **[Nasser (Theme 1)]**: What does experience of CWMP and other cases (e.g. those in *Ward and Awlaqi*) suggest about the level that has been reached – or can be reached - by SB WUAs?
 - WUAs within SB may be classified into three groups:
 - 1) Excellent associations that have reached the level enable them to continue working regardless of specific project support; they know will their missions beyond the project period, know how to make relations and implement projects that attract the interest of their members and donors; some of them already have started their new path, for example, Almahjel WUA has already submitted feasibility study to SFD to get support for lining their own pit to conserve water;
 - 2) Good Associations that achieved good results working with SBWMP through delivering the subsidized modern irrigation systems to great deal of their members and show others the advantage of the systems. They will continue working provided that continuous support in this regard will be provided by other projects; they so far see their duties only in delivering this kind of services;
 - 3) Weak Associations that without the project may consider that their missions have been come to the end. They are now, under the project, reluctantly react with the mission of the project.

On other hand almost all the WUAs are participating in the process of formation of their own Federation that will support and promote all Associations to continue working and set up relations with donors and interested organizations to deliver services and conserve irrigated water resources.

Links with traditional institutions and organizations for water management are not always clear. WUAs may need to be better grafted onto traditional set ups and rights. The co-existence of traditional and modern institutions may 'create multiple forums for dealing with disputes' [3.7B] [3.6E]

- ❖ **[Nasser (Theme 1)]**: This is a point made by the 2009 WUA study, but does it apply in Sana'a Basin?
In SB experience the co-existence of traditional and modern institutions is clear. The two are generally in one. The modern ones are made up from people who represent the traditional institutions. Almost all the heads of WUAs are from the first or second level of tribal heads in their areas.

In Bani Al- Hareth District all WUAs' heads under the supervision of newly appointed LC head made tribal agreement to ban random drilling in their District and signed by them as tribal leaders and WUAs' heads and will be endorsed by some first level tribal leaders in the area

Are the incentives for farmers to take part sound, and will they outlast the project? How sustainable are these organizations? Globally, WUAs often disappear after project benefits have gone [3.7C]

- ❖ **[Nasser (Theme 1)]**: What are the prospects for sustainability in the Sana'a Basin? 3.6C mentions that protection of domestic water supplies can be a motivation – is this the case in the Sana'a Basin?

Almost all the WUAs formed under SBWMP support will be sustained for the next reasons:

1. They felt: the water crisis; its influence on them and their generations;
2. They knew and tried the solutions (modern irrigation systems), and felt good effects on their products yielding;

3. They knew how to conduct and manage their Associations and what can be gotten only through them (services- including training, subsidized irrigation systems, extensions,...);
4. They knew the channels and doors to be knocked in case phasing out the current project(national and international Org. that can extend them any support);
5. That they really mean the sustainability, they started reorganize themselves in federation after effectively participated in forming the Union for WUAs on the country level (the idea started from SB but quickly evolved on the countrywide);
6. Almost all of the WUAs have their offices built that help them organize their woks and meetings and under somehow control of LCs.

The project organized some workshops on the sustainability issues for the leaders of WUAs and felt the determination of almost all of them to sustain, provided that the official institutions would not let them know their intention to nullify them as a fruit of undesirable project.

And perhaps most importantly, political support for WUAs is erratic, suggesting 'a real lack of political determination to solve or alleviate the water crisis. [1.3]

Areas suggested so far for improvement are:

- **Need for better definition of the roles of each actor (who does what, in detail)**
The roles of each actor is specifically defined in laws and by laws for each of them and redefined by their decrees of establishment and their own internal regulations, but from my point of view I may tray here to define their duties concerning their relevant relations towards WUAs, as follows:
 1. **SBC:**
 - Conduct the regular meetings in due time;
 - Attend all meeting;
 - Fill the list of members(including the rep. of WUAs);
 - Take difficult decisions on difficult matters;
 - Follow through the implementation process of the decision;
 - Take to account the delinquencies;
 - Pay more attention to the role of IWRM in water conserving;
 - Take actions to encourage formation and development of WUAs;
 - Take serious action to stop random drilling immediately;
 - Listening to reports about WUAs performance and encourage their roles.

Unfortunately, SBC can not do what cited above unless it gets direct instructions from the higher level.
 2. **NWRA-SB:**
 - Define and adopt the policy relieving the water crisis;
 - Coordinate with others(SBC, LCs, Ministry of interior..) to implement its duties including banning the random drilling of wells);

- Organize frequent meetings with WUAs leadership to coordinate plan of action with them, assign them duties and responsibilities (gradual shifting of NWRA duties including gauging and metering the water extraction);
- Training the WUAs to deal with technical issues instead of NWRA staff;
- Put forth criterions for performance assessment of the WUAs and grade them according to the norms and assign the duties in correspond to the grades; encourage and motivate them.
- Monitoring and following the WUAs, controlling and assessing their performance against the criterions...etc.

NWRA-SB management to succeed with fulfilling its duties and responsibilities should rise up to the level. Qualified staff should be recruited and empowered.

3. Local Council:

- approve the plan of action of each WUA in their Districts
- Control the performance of the WUAs in their Districts and support them;
- Assign duties and responsibilities for awareness raising among the farmers and communities including women and schools and extend them every support and share them;
- Organize general meetings with LCs members to brief them and answer the members' questions about the on-going process within the WUAs and to courage and praise their job or criticize them to improve their performance;
- To intervene in solving the emerging problems within the WUAs;
- Stop the random drilling with close cooperation of WUAs and traditional leaders;
- Coordinate the work of different Associations within the Districts, especially on water resource management and environment and pollution;
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4. WUAs:

- Conduct awareness campaign among the farmers about modern irrigation systems;
- Introduce the new practices of irrigation and planting;
- Deliver the needed services to the members;
- Support NWRA-SB in fulfilling its duties (assigned ones);
- Control water balance within the areas;
- Consolidate to stopping the random drilling within the areas in cooperation with LCs and NWRA-SB;
- Submit the needed reports to NWRA and LCs...etc.

5. WUAs Federation:

- Represent the WUAs before other institutions;
- Introduce good and advanced farming practices into the local agriculture;
- Improving the performance of the WUAs;
- Consolidate their efforts to fight the random drilling;
- Train the WUAs' members on advanced methods and technical issues concerning irrigation models and economic planting...etc.

- Need to 'weave a network for water governance' that includes WUAs and their federation, along with NWRA-SB, the Basin Committee and the Local Councils. [3.8A]
 - WUAs are placed under their federation on the Basin level;
 - The Federation represent them within the Basin Committee;
 - The WUAs may form their sub-federations within each district to ease their contact with the LCs and to represent the WUAs within the District sub-basin Committees (in case forming- now there is a proposal);
 - NWRA-SB may have contacts with the WUAs through their Federation and sub- federations or with them directly (depends on the issues);
 - The federation represents the WUAs within the Governorate LC level and other national and international organizations.

- The nature of the WUA partnership with NWRA Sana'a Branch in particular needs to be made clear, including the scope of support that NWRA-SB will provide to WUAs in the future. [3.8A. 3.8B]
- - NWRA- SB should embrace, support, encourage, motivate the WUAs and their federation and sub-federations;
 - NWRA-SB should train and raise the WUAs capacity building;
 - Assess their performance and grade them accordingly;
 - Assign them duties and tasks;
 - Provide them with needed information and data;
 - Enable them to participate and discuss the annual plan of action of NWRA-SB;
 - Explain and discuss the water balance of each area and measurements to be taken...etc.

- The powers and responsibilities of the WUAs need to be clarified. For example, making WUAs formally front line water managers, with delegated regulatory powers, with the authority to make and enforce rules and to collect fees. [1.2, a.3A, 3.8]
 - By the time being the NWRA-SB is reluctantly recognizing the formed WUAs;
 - The WUAs need for recognition and working with them closely;
 - For that purpose NWRA-SB should establish new department to deal with the WUAs and their Federation and sub-federations and recruit qualified specialists to work with them;
 - When NWRA is prepared enough to deal with WUAs, then the powers and responsibilities would come automatically through the raising issues and duties of each part (they are mentioned somehow above).

- Seeking top level political support for WUAs role in water governance. [1.3]
 - The Ministry and NWRA should show their eager interest in the forming WUAs and their Federation and sub-federations; this is what will be considered a political support.
 - Then the WUAs will do their best and play their role in water governance including taking actions against random drilling.

- **[Nasser (Theme 1):** Does the 'Presidential Conference' to be held later in 2010 offer a chance to get this top level endorsement?]

- Maybe this Conference is what is expected by all parts to be directed and instructed to do their duties and responsibilities according to the water law and gov. decrees issued, provided that the president personally attend and command;
- On the other hand, the current situation in the country may be not conducive to make good decisions towards water issues.

- [**Nasser (Theme 1)**: All the above 'areas for improvement' need to be further studied and stakeholders consulted. If recommendations are to be made, they need to be specific, feasible and costed.]

- **Specific Recommendations:**
 - The Ministry and NWRA should adopt IWRM approach (not only in words);
 - The formed WUAs within the SB should be recognized and supported clearly by NWRA-SB;
 - Establishment of new department within NWRA-SB to deal with the formed WUAs and their federation and sub- federation;
 - Train WUAs and raise their capacity building in deferent issues and in particular concerning the conservation of water and irrigation;
 - Assess their levels and grades continuously and assign them gradually some duties;
 - Chare them the information about water situation and seek their suggestions on different issues;
 - Represent them in different institutions including Sana'a basin Committee;
 - monitor their actions in field, discuss their quarter reports and evaluate their performance and motivate them;
 - Work closely with their federation and evaluate its performance and direct it;
 - Jointly discussing and approving the plan of action for the NWRA-SB and for the federation in general and each WUA in particular including water technical questions;
 - Introduce the formed WUAs in SB to the new project WSSP and in particular to NIP to continue working with them;
 - NIP should apply the system of installation of modern irrigation systems through the formed WUAs (good experience taken by SBWMP and well known by WUAs).