Irrigation Management Policy Reform in Indonesia—Its Role in Supporting the Pro-Poor Agricultural Development

Bambang Adi Nugroho *

Inter-temporal policy analysis could be considered as one among many ways to assess the progress in agricultural development. The policy itself is very much theoretically dependent upon the paradigm being adopted as the policy basis. For the case of the Indonesian irrigated agriculture, two principal paradigms could be comparatively observed in the history of irrigation development. They are, (i) the old development paradigm; and (ii) the newly formulated development paradigm. Both paradigms are very well illustrated in figure 1 and figure 2, respectively.

As it is presented in figure 1, the old agricultural development paradigm has, at least three main features, i.e., (i) nontransparent; (ii) inconsistent; and (iii) undemocratic. These features were closely related to the macro level national development policy, which was very authoritarian and centralistic in nature. Several policy measures that could be considered as significantly characterizing the old development model were, among others, pricing policy, food self-sufficiency policy, production input subsidy covering seeds, fertilizers, insecticides, pesticides, working capital and irrigation. The primary objectives of those policies were mainly to improve the income level of farmers, and to increase the national food production level.

Along the way, the implementation of such policies has been a matter of public criticism in many ways connected with the development objectives that have been launched. Among others, the first issue was questioning whether the income improvement has been experienced by the farmers/producers or the consumers? The level of sufficiency: is it rice or food self-sufficiency? If rice self-sufficiency is the primary objective, what is the reason of the government for launching *gema palagung* (rice-soybean-maize development)? Regarding the production improvement policy, whether such a policy was dedicated for rice production improvement or food production improvement?

Unlike the old development paradigm, the newly formulated development paradigm is characterized by: (i) transparency; (ii) consistency; and (iii) democracy(figure 2). The main issue raised and relevant to this new development paradigm is *compensate income transfer or subsidy.*

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*Irrigation Policy Senior Staff of BAPPENAS (National Planning Agency), the Republic of Indonesia, and Secretary General of the Irrigation Management Policy Reform Committee (WATSAL) of Indonesia.*
Figure 1. Old paradigm policy setup.
Although the new paradigm has been set up with extremely different characters compared with those of the old one, its development policy orientation and objectives are basically the same with those under the old paradigm, which covers: pricing policy, food self-sufficiency policy, production input subsidy covering seeds, fertilizers, insecticides, pesticides, working capital and irrigation. However, the long-term objectives are expected to meet the attainment of (i) farmers’ income improvement; (ii) national food self-sufficiency; and (iii) increasing food production. In connection with the issue of poverty, poverty characteristics relevant to the policy need to be understood clearly. This understanding is very important knowing the fact that there are many socioeconomic variables closely related to poverty, though economic variable has been considered by the most.

Consistent with the above paradigmatic changes, irrigation intervention in agricultural development has changed as well. Irrigation intervention was formerly oriented to support both rice production and farmers’ income improvement, through irrigation project in the forms of new irrigation infrastructure development, irrigation rehabilitation and improvement, and irrigation system operation & maintenance (O&M). In the newly developed paradigm, the objective of irrigation intervention is concentrated more on farmers’ income improvement through compensated income transfer. To compare the irrigation intervention under the old and the new paradigm, figures 3 and 4, are hereby presented.
Figure 3. Irrigation support policy (past situation).

PAST SITUATION

IRRIGATION SUPPORT POLICY
OBJECTIVES: TO INCREASE RICE PRODUCTION & FARMER INCOME

NATIONAL BUDGET (APBN)
REGIONAL BUDGET (APBD)

IRRIGATION PROJECT FOR
NEW DEVELOPMENT, REHABILITATION & UPGRADING, OPERATION & MAINTENANCE

FARMER OR CONSUMER INCOME INCREASED
RICE OR FOOD SELF-SUFFICIENCY
RICE OR FOOD PRODUCTION INCREASED

Figure 4. Irrigation Support Policy (future situation).

FUTURE SITUATION

COMPENSATE INCOME TRANSFER

IRRIGATION PROJECT
DISTRICT IRRIGATION MANAGEMENT FUND

TRANSPARENT COMPENSATE INCOME TRANSFER MECHANISM FOR IRRIGATION MANAGEMENT SYSTEM
NEW DEVELOPMENT, REHABILITATION & UPGRADING, OPERATION & MAINTENANCE

OBJECTIVE:
TO INCREASE FARMERS’ INCOME
To summarize, the differences between those two paradigms in connection with their corresponding management policy could be well elaborated in table 1.

Table 1. Comparative characteristics of the old and newly formulated policy paradigms in irrigation intervention.

<table>
<thead>
<tr>
<th>Item</th>
<th>Time</th>
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<tbody>
<tr>
<td></td>
<td>Past situation</td>
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<tr>
<td>1. Main Issue</td>
<td>Irrigation support policy</td>
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<tr>
<td>2. Objective</td>
<td>To increase rice production and farmer income</td>
</tr>
<tr>
<td>3. Mechanism</td>
<td>Irrigation project for new development, rehabilitation, upgrading, and operation and maintenance</td>
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<td>4. Budget</td>
<td>- National budget (APBN)</td>
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<td>- Regional budget (APBD)</td>
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Besides discussing the development strategy as has been mentioned, implementation characteristics are also very important to be taken into comparative consideration, particularly connected with the law and regulation in irrigation affairs. Inconsistency between irrigation laws and regulation and its implementation could be easily observed in the field. To illustrate one inconsistency, among many others, Constitution number 12/1996 very well mentioned that the Government is responsible for income decrease of the farmers as affected by rice self-sufficiency program (articles 6-1). However, the government has never satisfied farmers’ income security, and consequently irrigation development was very questionable.

Due to those reasons, therefore, in line with the newly formulated development paradigm the government has to reform its irrigation policy through the following measures (figure 5):

1. Reorganizing of tasks and responsibilities of irrigation managing institutions
2. Empowerment of WUAs
3. Turn over for financing irrigation management to WUAs
4. Reformulation for financing irrigation development
5. Support for sustainable irrigation

In turn, such irrigation management reform policies must be implemented with the principles of transparency, democracy, consistency, accountability, partnership, law supremacy, participatory, integrated planning, sociocultural, economic, dialogues, and should be local-resources based. Sound principles and approaches are required to strengthen the institutional, technical and financial capacity in irrigation development.
Figure 5. Irrigation management policy.

**RULES & PRINCIPLES**

TRANSPARENCY, DEMOCRACY, CONSISTENCY, ACCOUNTABILITY, PARTNERSHIP, AND LAW SUPREMACY

**APPROACH**

PARTICIPATORY, INTEGRATED PLANNING, SOCIOCULTURAL, ECONOMIC, DIALOGUES, AND LOCAL RESOURCES-BASED

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Figure 6. IMPR implementation strategy.

- Reorganizing of tasks and responsibilities
- Empowerment of WUAs
- Reformulation for financing irrigation management

Turn over of Irrigation Management to WUAs

Sustainable irrigation system
It is very rational to expect that, in the long-run, the effectiveness of this newly developed irrigation management policy would be made possible only when it is jointly supported by the development policies of other development sectors, such as, agriculture development policy, banking policy, pricing policy, and financial policies.

*Figure 7. IMPR implementation mechanism.*
Figure 8. The development policies required for the success of the newly developed management policy.

AGRICULTURAL POLICY
- FOOD SECURITY,
- FOOD PRICE,
- FOOD PRODUCTION,
- AGRICULTURE,
- TECHNOLOGY, etc.

BANKING POLICY
- AVAILABILITY BANKING SYSTEM IN RURAL AREA,
- RURAL CREDIT MECHANISM, etc.

FINANCE POLICY
- CHANELLING SUPPORT,
- PARTICIPATION,
- CONSTRUCTION,
- MANAGEMENT, etc.

III. FARMER INCOME INCREASED

II. Support
Turn over of irrigation management to WUAs

I. Sustainable irrigation system
REPORT ON WORKSHOP DISCUSSIONS

INAUGURAL AND TECHNICAL SESSION

The country workshop for the proposed project on “Pro-Poor Intervention Strategies in Irrigated Agriculture in Asia: Indonesia was held at Jayakarta Hotel, Yogyakarta, on 23 May 2001. The workshop was organized by the Center for Rural and Regional Development Studies, University of Gadjah Mada (CRRDS-UGM) in collaboration with the International Water Management Institute (IWMI). The workshop was attended by over thirty experts and professionals representing various organizations and agencies including: (i) National Development Planning Agency (Secretariat for National Water Resources Policies Reform; (ii) Department of Settlement and Infrastructure Development; (iii) Department of Agriculture; (iv) Indonesia Irrigation Communication Network; (v) Provincial Development Planning Agency of Central Java and Yogyakarta; (vi) Provincial Water Resources Development Office of Central Java and Yogyakarta; (vii) District Water Resources Development Office of Kulon Progo, Grobogan and Demak; (viii) members of the project team (ix) non government organizations (NGOs); and (x) representative of ADB Mission in Indonesia. Detailed list of workshop participants is given in the Appendix.

The workshop began with a brief welcome address by Dr. M. Maksum, Director, Center for Rural and Regional Development Studies (CRRDS), Gadjah Mada (GM) University. He welcomed and thanked all guests and participants of the workshop. He briefly explained the purpose and objective of the workshop. Dr. Maksum invited all participants to actively participate in the discussions in order to make the workshop a useful event. He invited Prof. M. Anwar, Vice Rector for Academic Affairs of Gadjah Mada University, as representative of the Rector of the University to deliver the keynote address and officially open the workshop. Prof. Anwar expressed his gratitude to IWMI for collaboration and joint research with the University. He mentioned that the GM university is one of leading universities in the country that has a long history in agricultural research as well as in development of country level policies and strategies. He highlighted that the GM university is actively involved in irrigation management policy reforms that are currently underway in Indonesia, and that the Indonesian Government has requested four staff members of the University to be on the National Committee for Water Resources Policy Reforms and three of them are from CRRDS.

He indicated that Indonesia’s past development policy was growth oriented, and that agriculture sector was considered as a supporting sector for industries. As a result, while the country achieved self-sufficiency in rice in 1984, living standard of farmers in rural areas remained low. Considering the poverty situation, the government is now adopting a new development paradigm that has an objective of attaining growth-equity-sustainability. Prof. Anwar suggested that the research project on pro-poor interventions in irrigated agriculture is a timely effort in the context of irrigation sector reforms in Indonesia. He ensured that
this joint research study would come up with useful findings and recommendations which could contribute towards solving the problems being faced in irrigation sector in Indonesia.

Dr. Intizar Hussain of IWMI thanked the GM University and specifically CRRDS for cooperation in this research project. Dr. Hussain then introduced IWMI as one of the leading research institutions in water sector in the world. He then introduced the project in some detail, and highlighted the fact that the study is very relevant to the present irrigation sector reforms in Indonesia.

The next session began with a briefing by Dr. Saiful Rochdiyanto, one of the members of the project team, on the methodology of discussions in the workshop. All participants were requested to raise suggestions or questions by writing down all what they wanted. The written suggestions and comments were displayed on boards, which were grouped/summarized into several topics/issues for further discussion by the participants.

Following a brief on workshop methodology, six papers including the Draft of Work plan of the study were presented in the morning sessions of the workshop. Dr. Ja’far Sidiq chaired this session.

Dr. Sigit S. Arif, team leader for the Indonesian component of the study presented the draft of work plan of the study. He explained that the country is under transition, and policy reforms are underway in various sectors including irrigation and water resources sectors. The old development paradigm that focused on economic growth has failed to increase farmers’ welfare, and the reform policy focuses on attaining growth-equity and sustainability in the agricultural sector. In the irrigation sector, the old paradigm that focused on achieving self-sufficiency in rice is being reformed with focus on raising farmers’ prosperity. However, some problems and issues are arising in the implementation of the policy reforms— including issues relevant to the capacity of existing bureaucracy (lack of capacity to implement reforms), poor accommodation for participatory approaches, inadequate support systems and inappropriate information systems. Other problems, specially at the irrigation system level relates to irrigation management performance, water rights, and quality of land and water resources. Dr. Arif explained the objectives and scope of the study, including the proposed study areas in Indonesia.

The second presentation was made by Mr. Bambang Adinugoho of National Planning Agency. He is currently the Secretary of Working Group of Water Resources Development Policy Reform. Firstly, he criticized the title of the study. He mentioned that the word ‘intervention’ is no longer used, it should be changed to something like ‘supporting the new irrigation policy’ that encourages participatory approaches and dialogues. He elaborated on the progress being made in the water resource policy reforms in Indonesia. He pointed out that in the past, irrigation management and development policies, like other policies, were developed under non-transparent, inconsistent and undemocratic ways, and that the past policies focused only on increasing food production in Indonesia.

The new paradigm of irrigation management is established on the basis of transparency, consistency, democracy, accountability, partnership and law supremacy. New irrigation policy consists of five main elements: (I) re-organization of tasks and responsibilities of irrigation institutions; (ii) empowerment of WUAs; (iii) turn over of irrigation management to WUAs; (iv) reformulation for financing irrigation management; and (v) development of sustainable irrigation systems. To achieve the objectives of the new policy, the government is adopting several strategies including: (i) providing support to WUAs to empower them technically,
financially and institutionally and (ii) involvement of universities and NGO at all levels of implementation. The overall objective is to improve the lives of the rural people.

Dr. Soenarno, a former Deputy of Minister and Director of Irrigation, Department of Public Works and Member of the Steering Committee of Indonesian Irrigation Communication Network presented the third paper. He explained the long historical journey of irrigation development and management policy starting with Hinduness Kingdom in ancient period until recent reforms.

During the imperial periods, farmers built their own irrigation systems, and support from the government was limited. During the colonial period, irrigation system was developed based on government needs i.e., to support sugarcane factories and tobacco estates. Efforts to support farmers came later. Initially, farmers had a minimal role in the development. After independence, the government of Republic of Indonesia built irrigation systems based on farmers’ need and no longer practiced the colonial policy on irrigation system development and management.

Further, he explained that the Government had paid attention in developing irrigation systems since 1965 under the New Order Government with General Soeharto as a President. In this period the government had built a number of new technical irrigation systems and rehabilitated existing irrigation systems across the country. Dr. Soenarno further highlighted failures of the past irrigation development policies.

He also offered suggestions on incorporating poverty alleviation concerns into the new irrigation policy. He raised some questions such as: (a) to what extent the policy on IMT will succeed in getting commitment from farmers (since most Indonesian farmers do not work only in farming sector but they also work in off farm sectors); (b) how the relationship between policy on food security and agribusiness can work in line; (c) how appropriate empowerment concepts can be integrated to make farmers self-reliant.

Dr. Effendy Pasandaran made the next presentation. He elaborated on the development of irrigated agriculture policy in Indonesia since the Dutch Colonial Government period. He suggested that it is important to study the relationships between poverty and irrigation from a historical perspective. According to him, past irrigation developments could not solve the problems of poverty in Indonesia—he attributed this to growth in population, and uneven distribution of land and water resources in the country. He warned the audience that irrigation is unsustainable and that crop yields are stagnant and cropping intensities show decreasing trends. He pointed out that modern irrigation systems are less flexible in terms of management, compared to traditional irrigation systems like Subak of Bali which are more flexible in management to accommodate the dynamics of the community. He emphasized on the importance of small-scale irrigation and micro-finance for alleviating poverty in the poor areas of Indonesia.

Mr. Nidhom Azhary, head of Provincial Water Resources Development Services (PWRDS) of Central Java, presented the fourth paper on the implementation of new irrigation management policies. He mentioned that in implementing the plan, the province has done some restructuring of water resources development services at all levels from the provincial level down to subdistrict level. Secondly, for empowerment of WUAs, the provincial government is offering participatory training programs to farmers and lower level government officials, incorporating farmers’ needs in irrigation management specially in relation to irrigation finance and O&M. Thirdly, turn over of irrigation management to WUAs is being
done in Krogowanakan Irrigation Scheme, and Beton Irrigation schemes. Fourthly, reformulation for financing irrigation management i.e., cost recovery, is underway on a pilot basis in several schemes. However, some problems are hampering the implementation of reforms, including lack of capacity of farmers and low level government officials. Farmers feel that O&M is the responsibility of government, and they refuse to participate in implementation of IMT program.

Dr. M. Maksum, the Director of CRRDS-GMU, presented the last paper. He elaborated on the inappropriateness of past agriculture development policies, impact of crisis on the poor and the scope for poverty reduction with pro-poor strategies in irrigated agriculture in Indonesia. He indicated that structural poverty of agriculture has been the most important social consequence of the economic development model of the country that focused on capital accumulation strategies, and that agriculture and irrigation development in this country has never been influential in alleviating poverty.

BRAINSTORMING SESSIONS

After presentation of papers, there was some discussion on issues raised in presentations. Dr. Sigit S. Arif chaired this session. Project-related issues, concerns, suggestions given by participants were summarized into six broad topics: (i) definition of poverty and in-depth study on poverty in the selected irrigation systems, and implications of the government irrigation related policies for the poor; (ii) problems arising from implementation of decentralization in irrigation sector, financing and government budget, support and subsidies to irrigation systems, irrigation management transfer/IMT, water rights in the irrigation system and among users, irrigation institutions (restructuring both farmers and government institutions, roles and tasks, etc); (iii) developing criteria for assessing performance of irrigation management with IMT and new irrigation management policies; (iv) implications of new policies for food self-sufficiency and for rural poverty; (v) sharpening criteria for selection of irrigation systems to be studied; (vi) studying surface and groundwater irrigation in the context of conjunctive water management.

Dr. Efendy Pasandaran stressed on identifying the policy variables that push the poor up. He suggested that in the short-run adjustments of cropping plans/management according to availability of water should be pursued. He emphasized on looking at the factors that make the irrigation systems responsive to the needs of the poor. In the long run, irrigation needs to be expanded through rehabilitation, increased farmer participation and through development of new institutions.

Small size of landholding was highlighted as one of the major constraints in Indonesia – which limits the scope for poverty alleviation through irrigation in the context of medium and large-scale irrigation systems.

Dr. Rustam Syarif and Dr. Efendy Pasandaran felt that there is no clear definition of poverty in relation to irrigation and agricultural development. Furthermore, Dr. Syarif added that misleading definitions of poverty and farmers’ economic and financial status could lead to wrong decisions on the selection of study areas. In this relation, Dr. Effendy proposed
that the study team should redefine poverty instead of using the existing commonly used definition of poverty which is based on a daily calorie intake. Bambang Adinugroho of BAPPENAS, Sarwoko and other participants of Central Java PWRDS suggested that the past policy on poverty alleviation should be evaluated first and the study should come up with recommendations for effectively reducing poverty in rural areas of Indonesia.

They also suggested that implications of new decentralization and autonomy policies for the poor should also be studied. The concern was raised that restructuring of irrigation institutions is not consistent with the new irrigation management policies. Other issues that were highlighted relate to government subsidies to WUAs, micro-banking for the poor, market systems, information systems and technical assistance for WUAs. Similarly, the issue of relationships between central-local governments in the context of decentralization was also raised. Participants from both Provincial governments, Yogyakarta and Central Java, pointed out that the IMT program, adopted with similar procedures, gave different results in different schemes, and they raised related concerns on the effectiveness of implementation of new irrigation policies in two provinces. The participants suggested for developing appropriate approaches for monitoring and evaluation of the IMT program, and for developing frameworks measuring the sustainability of irrigation systems.

Mr. Yoshiharu Kobayashi of the ADB mission in Indonesia briefly described ADB’s poverty alleviation efforts in Indonesia. He mentioned that this study would provide a guide in implementing the new irrigation policies in Indonesia. He stressed on the role of small-scale irrigation in poverty alleviation and its importance in the poverty-stricken areas of Indonesia. He informed the workshop that the ADB is planning a project in Central Java for improving the incomes of poor farmers by providing them with access to technologies and markets.

Participants from NGOs and districts discussed the issues related to water rights and conflicts in a river basin, and highlighted the importance of dialogues and forums for conflict resolution. In the later part of the second session, the discussion was focused on study areas. Dr. M. Maksum chaired this session.

The participants suggested the following criteria for selecting the areas/irrigation systems to be studied in the proposed project.

1. Poverty situation in the area/system
2. Type of irrigation management system: IMT and non-IMT; technical or non-technical irrigation system
3. Water availability and distribution patterns
4. Cropping patterns, agricultural technologies, crop productivity

Based on the above criteria, several areas and irrigation systems were discussed and proposed as suitable candidates for the study. The following four irrigation systems/schemes were finally proposed, and there was a general consensus on their suitability for this study: Kalibawang Irrigation System in Yogyakarta Special province; Klambu Kiri Irrigation Scheme
and Glapan Irrigation Scheme in Jratunseluna basin and Krogowanlan Irrigation System in Central Java Province.

The workshop was closed with some discussion on the proposed study areas and irrigation systems. Dr. M. Maksum and Dr. Hussain thanked all participants for their fruitful contributions to the research project.