

Note # 7

Note submitted:

Sir,

Sub: APDMP – Strategy note on Ground water collectivisation - Procurement PVC pipes and other materials - Approval - Requested – Reg.

Ref: 1) AWP & B, FY 2019-20, APDMP.

2) Note orders of the Project Director & Spl Commissioner of Agriculture, A.P, Guntur dated 10-5-2019.

1. In continuation to the note file approved vide # 4 dated 10-5-2019 where in the Project Director & Spl Commissioner of Agriculture, AP, Guntur has approved the SoR rates for the purchase of PVC pipes from the approved MI companies by APMIP to undertake Groundwater Collectivisation activity in the project.
2. In this context, a strategy note on operational modalities of Groundwater collectivisation activity developed by SPMU & LTA to implement in the project by field functionaries is here with submitted.

Strategy Note on Operational Modalities - Groundwater Collectivisation

Concept:

Collectivisation of private borewells for extending lifesaving protective irrigation to larger areas of rainfed crops of farmers not having access to borewells by sharing water from the borewell owners is one of the key strategies of APDMP to mitigate adverse impacts of droughts. The key principles that lead to groundwater collectivisation are Common sharing, social regulations, technical support and scientific understanding

The basic idea is pooling of the groundwater from bore well farmers and sharing it with the farmers who don't have access to water, thereby providing critical irrigation to the rain fed crops. The farmers who agree to participate, enter into an agreement wherein borewell/dug well owners provide critical irrigation, to non-borewell owners. The non-borewell owners agree to the condition, that they would not drill a bore well for period of 10 years .

Activities:

In brief, the program identifies an area of 30 to 50 acres with about 1/4th or less area, currently under irrigation from borewells and 3/4th without access to water; this may vary slightly based on the field conditions. There must be at least 3 borewells and at least 10 farmers in all in the group for this project to be operational.

Negotiation between these two types of farmers is facilitated to share water commonly during Kharif with entitlement for all to have at least 3 protective irrigations . In lieu of this, rainfed farmers will assure not to dig any new borewells for 10 years and the project invests on a pipeline grid and micro irrigation to increase water use efficiency and brings in diversity in rainfed crops .

Crop water budgeting exercises will also be introduced along with measurement of groundwater level. The micro irrigation equipment's have to be rented from the Custom Hiring Centre

The approach has successfully been tried out earlier in a collaborative program of the Department of Agriculture and WASSAN.

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Benefits:

This way,

- a. It stops competitive extraction of groundwater
- b. Sharing of water among the farmers.
- c. Rainfed crops are protected against dry spells.

- d. Water use efficiency is increased,
- e. As the crop is relatively secure, farmers start investing in their rainfed agriculture.

Project Targets:

As per the project cost Tables: The Project is to achieve the following targets over the 5 years of its implementation period:

Particular	Total
Borewells to be collectivized Physical (No)	3300
Area Covered (Ha)	15620
Financial (in Rs. Cr)	46.86

Rupees 46.86 crores are allocated over the project period to collectivise 3300 borewells to extend protective irrigation to 15,620 ha of area. The proposed target area and budgeting includes RIDF target as well.

Unit cost of groundwater collectivisation depends on the distance of source of water/ borewells from the location of rainfed fields where irrigation is required. The unit cost of the groundwater collectivisation scheme was estimated at Rs.30,000 per ha in the design document, where water is assumed to be available within the collectivisation patches.

There is cost escalation because of the following :

- i. Increase in taxes post-GST, increase in the SSR / SoR rates etc., there is cost escalation.
- ii. In several cases, due to consecutive droughts, water is mostly available in the borewells situated nearer to larger irrigation tanks / nearer to streams etc., which necessitated additional pipelines and there by cost escalated.

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The initial plans, estimations and budgets prepared within APDMP project areas suggests a unit cost varying from Rs.42000 to Rs.52000 per ha, excluding farmers share. In view of this, it is recommended to go with a maximum unit cost of Rs.52000 per ha. Over and above the unit cost borne by the Project, the farmers need to contribute minimum of 15% value of the unit cost towards refilling of pipeline trench and labour charges for pipeline installation etc.

After completion of pipeline network if there is leftover amount, it can be used for maintenance and other operational cost and not be distributed amongst farmers. Filling of trenches after the pipes are laid out is also to be carried out by farmers.

Any additional unit cost over Rs.52000 per Ha can also be taken up but the additional cost must be borne by the farmers; in any case the *Benefit: Cost* ratio must be >1.0 within a payback period of 5 years.

Operational Modalities:

Preparatory Work:

- WASSAN, Lead Technical Agency for the project, has developed a mobile based software for mapping, planning and trained the field functionaries on using it along with Google Earth and Excel for design and estimates preparation.
- LTA team is supporting the LFA in at least two such sites till the experience is internalized within their team.
- A Groundwater Collectivization Proposal Template is developed by the LTA and the LFA teams are trained in the same. It has all the checklist of documents and data, maps, estimations supporting documents etc., to be submitted.

Program Processes:

The following steps need to be undertaken at the field level along with FPO by Lead Facilitating Agency (LFA) and Facilitating Agency (FA) while developing the Groundwater collectivisation proposal:

Orienting the FPO on the subject and identifying the potential areas for groundwater collectivisation shall be done by L/FA

- Demarcating the area and detailed mapping (supplementing Land Use Maps); the area must have about 1:4 or above ratio of borewell irrigated area to rainfed area.
- Detailed water balance exercises taken up and a feasibility assessment is made and discussed with the farmers to enable them to see their benefits or losses. This exercise profiles the drought risks without and the benefits of its mitigation; especially, it projects the benefits to the borewell farmers if they agree to the norms.
- The farmers' contribution would be minimum of 15% over and above the unit cost fixed by the project. The farmer balance contribution shall be deposited in the FPO general account in advance before commencement of work.
 - The water sharing group has to agree for above points mentioned above (point 2 to point 4) and collectively submit an application to the FPO to utilise the budget earmarked
 - An agreement is signed by all the farmers in the presence of the Mandal Revenue Officer (as witness)
 - A proposal with line estimation and farmers details to be submitted to DPMU for administration approval.
 - A detailed design of the system along with costs is worked out and presented to the farmers and revisit the cost sharing norms.
 - A detailed proposal is prepared with technical details, costs and returns.
 - The proposal has to be sent for approval to DPMU/SPMU duly attached resolution of FPO and forwarded through L/FA.
- Lead FA compiles all the proposals, makes an assessment and submits to DPMU /SPMU for administrative and technical sanction as per the work flow guidelines communicated earlier in the project. A copy may be submitted to LTA for information and necessary support action.
- While preparing the budget estimations standard SSR /SoR rates shall be used.
- The suppliers empanelled at the state level for supply of pipes and other material will be communicated to the FPOs for choosing the supplier of their interest. FPOs will place an indent to SPMU for procurement of required pipes and other materials.
- SPMU will procure the material as per the approved cost norms and supply to the FPOs.

Technical and Administrative Approvals:

- The LFA in coordination with FA/FPO concerned shall submit the proposals along with the community water sharing agreement, patch details to DPMU for administrative sanction as per guidelines.
- The DPMU shall process and accord administrative sanction within 3 working days, otherwise submit to SPMU with remarks for administrative sanction.
- After issue of administrative sanctioned by DPMU/SPMU the LFA/FA shall initiate detailed design, lay out plan and estimates with all technical parameters and submit to DPMU for technical sanction.
- The DPMU shall process proposals and accord technical sanction within 5 working days.
- LFA shall issue work commencement letter to FPO/FA for execution of work.
- LTA will provide support to LFA/DPMU/SPMU in technical matters.
- While preparing the budget estimation standard SSR/SOR rates in vogue shall be followed.
- The LFA on preparation of BOQ based on the design and technical estimation shall submit to SPMU for placing purchase order to empanelled companies.
- Regarding payments to companies the SPMU will pay on receipt of invoice from FPO duly making stock entry and recommended by L/FA.
- The SPMU will release funds to FPO in advance for carrying civil works and pipeline installation etc.
- The FPO/FA (NRM) will be held responsible for documentation and safe keep of the material.
- The work execution and MB recording shall be followed as per the work flow guidelines issued earlier.

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Check Measurement & MB etc.:

- The project will follow the same procedures as laid out for all NRM works of APDMP.

Non-Negotiables:

- i. The ratio of irrigated land to rainfed land should be between 1:2 to 1:4;
- ii. Minimum of 10 farmers in the group.
- iii. Payment of farmers' share at least 50% of the 15% farmer share in advance.
- iv. Water budgeting and area limited to potential for providing 3 irrigations to all fields in the given area based on the measurement of discharge.
- v. Crop pattern changes agreed by the farmers.
- vi. Positive (>1) benefit: cost ratios; payback period of 5 years or less

- vii. All farmers sign an agreement on NO NEW borewells at least for 10 years; and the document on judicial stamp paper witnessed by the Mandal Revenue Officer.
3. Further, it is submitted that, the ground water collectivisation activity is targeted to take up in an extent of 15620 Ha in five years in the project area with total outlay of Rs 46.86 crores. However, during 2019-20 this activity is planned to implement in an area of 6300 ha and to that extent budget was earmarked for Rs 18.90 crores in AWP&B, FY 2019-20.
4. In this regard it is submitted that, to implement this activity procurement of PVC pipes and other accessories is to be taken up immediately as per the procedure and approved norms and it is required to obtain prior approvals from IFAD for the entire procurement process.

If the Project Director & Spl Commissioner of Agriculture, AP, Guntur pleases, it is requested to orders on

- To approve the para #2 regarding the Strategy-note on Ground water Collectivisation.
- To approve para #3 regarding targeted area and budgets to accomplish this activity.
- To approve para #4
- Permit the Chief Operating Officer, APDMP, Guntur for further process in this regard.

For orders on a, b, c & d above

 **Approved AWP&B 2019-20.pdf**

22/06/2019 6:17 PM

K RAMANA KUMAR
(AGRICULTURE OFFICER)

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Note # 8

Sir,
submitted note file for approval of PD, APDMP

22/06/2019 6:22 PM

N VENKATESWARLU
(TECHNICAL OFFICER)

 Digitally Signed

Note # 9

Sir,
Requested to approve the note

22/06/2019 6:30 PM

VDV KRUPADAS
(CHIEF OPERATING OFFICER)

 Digitally Signed

Note # 10

The enhancement due to taxes is in order.

24/06/2019 3:52 PM

SURA BALAKRISHNA
(SPECIAL COMMISSIONER)

 Digitally Signed

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Note # 11

Requested to resubmit the file duly complying the remarks of the PD, APDMP.

25/06/2019 11:55 AM

VDV KRUPADAS
(CHIEF OPERATING OFFICER) Digitally Signed**Note # 12**

Sir,

Re-submitted note with justification for escalation of unit cost.

1. At the time of preparation of Project design Manual, the taxes i.e VAT is 5% during 2014-15 whereas the present prevailing taxes i.e GST @18% on the procurement of pipeline & accessories.
2. The SSR / SOR rates adopted at the time of preparation of project design i.e. 2014-15 varies with present SSR/SOR rates (2019-20), there by the unit cost is escalated.
3. In several cases, due to consecutive droughts, water is mostly available in the borewells situated nearer to larger irrigation tanks / nearer to streams etc., which necessitated additional pipelines and there by cost escalated

In view of the above, the unit cost is escalated . Hence, it is requested to approve the note.

25/06/2019 1:54 PM

N VENKATESWARLU
(TECHNICAL OFFICER) Digitally Signed

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Note # 13Sir,
Resubmitted with justification. Requested to approve the note.

25/06/2019 1:59 PM

VDV KRUPADAS
(CHIEF OPERATING OFFICER) Digitally Signed**Note # 14**

Approved.

25/06/2019 2:48 PM

SURA BALAKRISHNA
(SPECIAL COMMISSIONER) Digitally Signed**Note # 15**

Requested to take necessary action immediately

25/06/2019 3:48 PM

VDV KRUPADAS
(CHIEF OPERATING OFFICER)

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Note # 16Sir,
forwarded to to take necessary action

26/06/2019 1:03 PM

N VENKATESWARLU
(TECHNICAL OFFICER)