

# ADB PUNJAB GENERAL PROVIDENT FUND PILOT PROGRAM

## FINAL REPORT EVALUATION AND RECOMMENDATIONS

PUNJAB GOVERNMENT EFFICIENCY IMPROVEMENT PROGRAM  
TA – 7003 (PAK)

PRESENTED TO THE  
PENSION ADMINISTRATION TASKFORCE  
AND THE  
GOVERNMENT OF PUNJAB  
FINANCE DEPARTMENT  
AND  
ASIAN DEVELOPMENT BANK

SUBMITTED BY  
THE ARIES GROUP, LTD.  
USA

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# The Aries Group, Ltd.

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**FINAL REPORT**  
**EVALUATION AND RECOMMENDATIONS**  
PGEIP: ADB TA – 7003 (PAK)

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<b>Key Definitions</b>			
AAG	Additional Accountant General	EOL	Extra-ordinary leave
AAO	Assistant Accounts Officer	FI	SAP R/3 Financial Information
AG	Accountant General	FABS	Financial Accounting & Budgeting Systems
ADB	Asian Development Bank	FOTC	Field Office Training Center
AO	Accounts Officer	FY	Fiscal Year
BPS	Basic Pay Scale	IFRS	International Financial Reporting Standards
C&R	Calculation & Report Form	KPO	Key Punch Operator
CNIC	Computerized National Identify Card	NAM	New Accounting Model
DAG	Deputy Accountant General	NBP	National Bank of Pakistan
DAO	District Accounts Officer or District Accounts Office	PGEIP	Punjab Government Efficiency Improvement Program
DCO	District Commission Officers	PIFRA	Project to Implement Financial Reporting & Auditing
DDO	Drawing & Disbursing Officer	PPF	Punjab Pension [Investment] Fund (also includes Punjab General Provident Investment Fund)
DoA	Date-of-appointment	PPO	Pension Payment Order
DoB	Date-of-birth	SAP CC	SAP Competency Centre
DoD	Date-of-death	SBP	State Bank of Pakistan
DoR	Date-of-retirement	TO	Treasury Officer or Treasury Office

## CHAPTER I – EXECUTIVE SUMMARY

### *Scope of the Problem*

1. The high level of incorrect employee records of the SAP R/3 HR database has generated problems that negatively impact three groups:
  - a. The Finance Department cannot forecast or develop a financing plan to manage future liabilities of the GP Fund. Long-term projections needed for cost control, financial and budget monitoring and actuarial projections are subject to a high degree of uncertainty. The Finance Department is forced to base planning and management decisions on inaccurate, incomplete and inadequate GP Fund information. The Actuary is limited in developing options for the financing plan of the Finance Department to meet its long-term management goals.
  - b. Employees encounter massive delays ranging from several months to years to process their GP Fund final payments or advances (in-service loans). Relying on a database in which the majority of GP Fund employee records contain incorrect, incomplete and missing data and subscription amounts creates opportunities to solicit and offer bribes in exchange for accelerating GP Fund account requests.
  - c. Provincial and district DDOs and the Office of the AG allocate staff resources to locate, verify, copy and attest to documents requested by the Office of the AG to correct the GP Fund data fields or provide evidence of deductions of missing subscriptions.

### *Findings of the Pilot Program*

2. The ADB Punjab GP Fund Pilot Program identified<sup>1</sup> seven major findings.
  - a. There are data field problems: 53 percent of employee records are missing data fields<sup>2</sup>; 86 percent reflect data field errors; 44 percent are missing more than 12 monthly subscriptions<sup>3</sup>; and average monthly missing subscriptions are less than Rs 50.
  - b. There are missing subscriptions problems:
    - i. The average missing subscription is less than Rs 50 for each month / year. See Kasur example.
    - ii. Amount of mandated GP Fund subscriptions is higher for officers (above BPS 17), who represent fewer than 15 percent of employees and therefore the GP Fund accounts. We assume a higher average of missing subscriptions for this 15 percent of

<sup>1</sup> The Pilot Program Team analyzed 12 data fields of 1,000 employee records that the Office of the AG generated from the SAP R/3 HR database

<sup>2</sup> Examples data fields include DoB, DoA and CNIC. Causes data fields errors are reviewed in Chapter XXX, Pilot Program Key Findings.

<sup>3</sup> All 1,000 employee records of the Pilot Program generated from the SAP R/3 HR database included one or more missing subscription months as addressing the problems of missing subscriptions was a primary goal of analysis.

employees, although anecdotally the Pilot Team was told that officers would often direct the lower level staff members locate evidence of their missing subscriptions.

- iii. Much too much time is spent collecting evidence of deduction for insignificant amounts of missing subscriptions.
  - iv. 44 percent of the universe of GP Fund accounts analyzed are missing 12 or more months of subscriptions; this lower than anticipated number of GP Fund accounts of missing subscriptions is based on an analysis of AG Lahore GP Fund accounts.
- c. There is no financial analysis being undertaken to quantify the number of GP Fund accounts that are missing subscriptions or that identifies those with missing, incorrect or incomplete data fields.
- d. There is no proactive process to identify which GP Fund accounts contain data field errors or missing subscriptions. The Office of the AG only reviews the correctness of the GP Fund account when an employee requests an advance or final payment. If the GP Fund account is missing subscriptions, the Office of the AG requires that the employee collect from his DDO evidence that his subscriptions were deducted from his pay by the Office of the AG. Procedures<sup>4</sup> to collect evidence for the Office of the AG are:
- i. Inadequately documented and communicated;
  - ii. Not consistently followed even within the Office of the AG; and
  - iii. Almost always poorly executed resulting in significant delays to the employee in receiving his payment and creating an environment for soliciting or offering bribes. All transactions, budget reports and future cost estimates for the GP Fund (and also pension and payroll) expenditures are processed using employee records that form a single database, called the SAP R/3 Human Resources (HR) database.
- e. There are procedural shortcomings related to the Office of AG's request to collect evidence of whether the AG / DAOs deducted the subscriptions from the employee's payroll. There are:
- i. Poorly structured procedures – they are not well thought and often do not produce desired result even on the rare occasion when procedures are followed

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<sup>4</sup> The role of the employee collecting evidence of deductions inappropriately provides the employee access<sup>4</sup> to his original or attested copies of documents. Standards of pension and GP Fund conversions uniformly recommend against such procedures as doing so create risks that dishonest employees may exploit to falsify records for their own benefit.

- ii. Lack of understanding by the concerned departments and DDOs,
  - iii. Inability of the DDOs (and quite often the staff of the AG / DAOs) to follow procedural rules,
  - iv. Inconsistent application and communication of when procedures were not followed.
- f. The testing of the auto-populate tool demonstrated 100 percent of the time 100 percent correct amounts of mandated subscriptions - when the employee's GP Fund account contains the correct (not erroneous, not missing) BPS for the month / year of missing subscriptions.
- i. The auto-populate tool - even when the time is needed to collect the BPS for the month / day of missing subscriptions - more quickly calculates the amount of missing subscriptions through a series of analyses than the continued use of inadequate procedures that often are not followed and just as often produce no or incorrect results.
  - ii. Using the auto-populate tool also provides quantifiable analysis that should be provided to the FD and the Office of the AG - this has been lacking from the process.
- g. There is a lack of interaction and effective communication between the FD to the Office of the AG when the FI reports on the GP Fund accounts were incorrect.

### ***Recommendations to Overcome the Problems***

3. Solving the problems for pension and GP Fund accounts is complex. The challenge is to develop a plan that will systematically identify data or subscription errors in all situations. The SAP R/3 HR database contains approximately 1.1 million provincial and district GP Fund employee records, of which the Pilot Team and the Consultants estimate that about 800,000 contain one or more errors or omissions. The universe of employee records is too high and the number of errors is too substantial for continued manual processes to be efficient.
4. The SAP R/3 HR database relies on processing using the GPF Modules therefore requiring that data fields and subscriptions must be correct.
- a. The Consultant does not recommend continued reliance on the current process of waiting for an employee to submit a request before commencing to compile paper-based records to be used to update an employee record on a one-off basis and warns that the current method will not ensure corrections to the database.
  - b. The Consultant recommends that each employee record should be analyzed, identified and corrected through the creation,

implementation and monitoring of a comprehensive plan. Such a plan would be comprised of three parts and follow the sequencing outlined below:

Part 1 – Prepare quantifiable analysis of the employee records that comprise the SAP R/3 HR database: Define the scope of the problem through financial analysis of the employee records. The Finance Department can be provided the a quantifiable scope of the problem, objectives and a course of corrective action for each employee record defined, implementation plan developed, budgetary and other support prepared and a progress monitoring plan developed.

Part 2 – Segregate employee records by common problems: Analysis would also result in: i) validation of employee records as correct or incorrect; ii) identification of data fields as correct, missing, incomplete or erroneous; and iii) quantification of the value of missing subscriptions and validation of the accuracy of amounts of existing subscriptions. This would permit segregation of employee records by common problems to establish efficient correction processes. An example of is located at Table 1 – Employee Records and Analysis of Data Fields.

Part 3 – Develop, implement and monitor the plan to correct each employee record: Establish parameters of efficient processing and appropriate allocation of provincial and district resources such as staffing, time deadlines, budget, and technical support needed for access to the database (computers and internet access). Paper-based records such as service histories that were not earlier compiled or converted now need to be addressed. Some missing subscriptions may be updated more accurately and efficiently after the Finance Department is provided quantifiable analysis defining missing amounts. Prepare guideline recommendations to credit missing subscriptions of amounts that fall below a defined amount written procedures to process corrections to data fields and missing subscriptions for each employee record and procedures to audit and validate the accuracy of the correction process.

5. The Consultant further recommends dividing the plan into developmental and implementation phases. The development phase should address efficiently and accurately correcting employee records without disrupting the daily work of the employees of the DDOs and the Office of the AG. The Consultant proposes the creation of a sole purpose “database correction team” whose members would be experienced, perhaps comprised of employees / former employees of the Office of the AG, Finance Department and other relevant departments. The implementation phase should initially target the correction of records of all employees who are within two years of the mandatory retirement age of 60 to accelerate an immediate positive impact on these employees, their Departmental DDOs and the Office of the AG.



## CHAPTER II – BACKGROUND

6. The Asian Development Bank (ADB) is providing technical assistance (TA) under the Support to Governance Reforms in Pakistan, subproject Punjab Government Efficiency and Improvement Program (PGEIP) ADB TA 7003. Assistance has been provided to the Finance Department to improve the management of long-term expenditures. Two significant expenditures of the provincial government are civil service commuted and monthly pension payments and final payments from the General Provident Fund (GP Fund) at retirement. These expenditures rely on data maintained on the SAP R/3 Human Resources (HR) database – to create totals that are provided to the Finance Department in the form of monthly finance reports, also called FI reports.
7. To assist in the analysis of understanding the problems caused by incorrect, incomplete or missing data and missing subscriptions, the ADB and the Finance Department agreed to a Pilot Program, a copy of the Pilot Program Terms of the Reference is located at Appendix A.
8. In addition to this Report, a presentation was made to the Pension Administration Taskforce (PAT) 31 October 2009. Supplemental presentations were made to the Special Secretary Finance and Chairman PAT in March 2010 and to the Accountant General and his senior management team in March 2010. The presentations and case study details of Kasur employee records are included at Appendix B.
9. Substantiating documents related to the Pilot Program include: Appendix C, Memorandum from the AG Punjab to ADB and Finance Department to Participate in the GP Fund Pilot; Appendix D, Presentation From the Consultants & Pilot Team to AG Punjab and ADB; and Appendix E, Pilot Program TORs for the AG Punjab. Appendix F is the detailed explanation of the Auto-Populate Tool used by the Pilot Team.
10. The remainder of this Report is divided into four sections –
  - a. A detailed description of the Scope of the Problem is included at Chapter III.
  - b. An expanded explanation of the ADB Punjab Pilot Program is at Chapter IV.
  - c. More comprehensive details of the Key Findings and Lessons Learned of the Pilot Program are at Chapter V.
  - d. Comprehensive details of the GP Fund and the current process used for advances and final payment requests are provided in Chapter VI.

### CHAPTER III – SCOPE OF THE PROBLEM

11. The Office of the AG Punjab maintains a unified database of records for its 1.1 million employees. All payroll, pension and GP Fund transactions are processed using the employee records that make up the SAP R/3 HR database. The totals of pension and GP Fund expenditures reflected on the monthly financial (FI) reports provided to the Finance Department are generated from this database. Yet, the underlying data for the majority of the employee records contain incorrect or incomplete data fields and missing GP Fund subscriptions. The Office of the AG began maintaining employee records on the SAP R/3 HR database in April 2004<sup>5</sup>. The GP Fund account balances have never been correctly reported to the employee or the Finance Department for employees hired before the effective date of the new database.
12. Functional recordkeeping of payroll, pension and the GP Fund are created and maintained on a single database. An employee record is created on the single database for each of the approximate 1.1 million provincial and district employees. Each employee record is comprised of about 100 data fields. Processing any transaction for payroll, pension or the GP Fund involves the employee record data fields. An illustration of how the data for the GP Fund is maintained on the database and used for all three functions is below.

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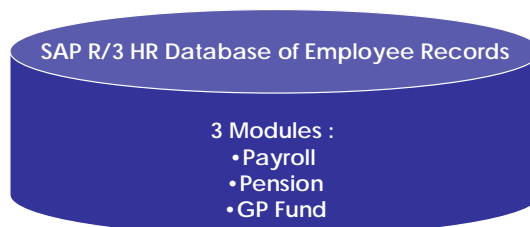
<sup>5</sup> April 2004 represents a go-live date, when the provincial AG began to process SAP R/3 HR Payroll Module for existing employees. The actual date varies on which each employee converted from either the former system, referred to in this Report as the legacy system, or from paper-based records. The variation in dates is a function of when the employee's district accounts office was converted to the SAP R/3 HR Payroll, for the majority of the employees this would be April 2004 to June 2009. Some employees still have not been converted to SAP R/3 HR Payroll Module.

**Figure 1 – SAP R/3 HR Database**

Relationship Between the SAP R/3 HR Database and 3 Modules			
	Payroll Module	Pension Module	GP Fund Module
<b>Purpose of each Module</b>	<ul style="list-style-type: none"> <li>To calculate and pay salary, allowances, taxes, GP Fund subscriptions and more.</li> </ul>	<ul style="list-style-type: none"> <li>To determine eligibility<sup>[1]</sup> of pension or gratuity benefits.</li> <li>To calculate commuted benefits and monthly pensions or gratuities or family benefits.</li> </ul>	<ul style="list-style-type: none"> <li>To calculate GP Fund monthly account balance.</li> <li>To determine eligibility for advances and advance repayments.</li> <li>To calculate on GP Fund: <ul style="list-style-type: none"> <li>final payment or</li> <li>maximum advance or</li> <li>advance repayment.</li> </ul> </li> </ul>
<b>Examples of data fields on which each Module relies</b>	<ul style="list-style-type: none"> <li>BPS grade and salary</li> <li>Bank account information</li> <li>Mandated subscription rates</li> </ul>	<ul style="list-style-type: none"> <li>Date-of-birth (DoB)</li> <li>Date-of-appointment (DoA)</li> <li>Current BPS grade and all past BPS grades since DoA</li> <li>Periods of EOL</li> </ul>	<ul style="list-style-type: none"> <li>DoB</li> <li>DoA</li> <li>All past monthly subscriptions since DoA</li> <li>Periods of EOL</li> </ul>
<b>Frequency of processing Module</b>	Monthly	<ul style="list-style-type: none"> <li>Once at retirement or termination of employment</li> <li>Once or more following death</li> </ul>	At attainment of retirement or death or for processing a request for an advance

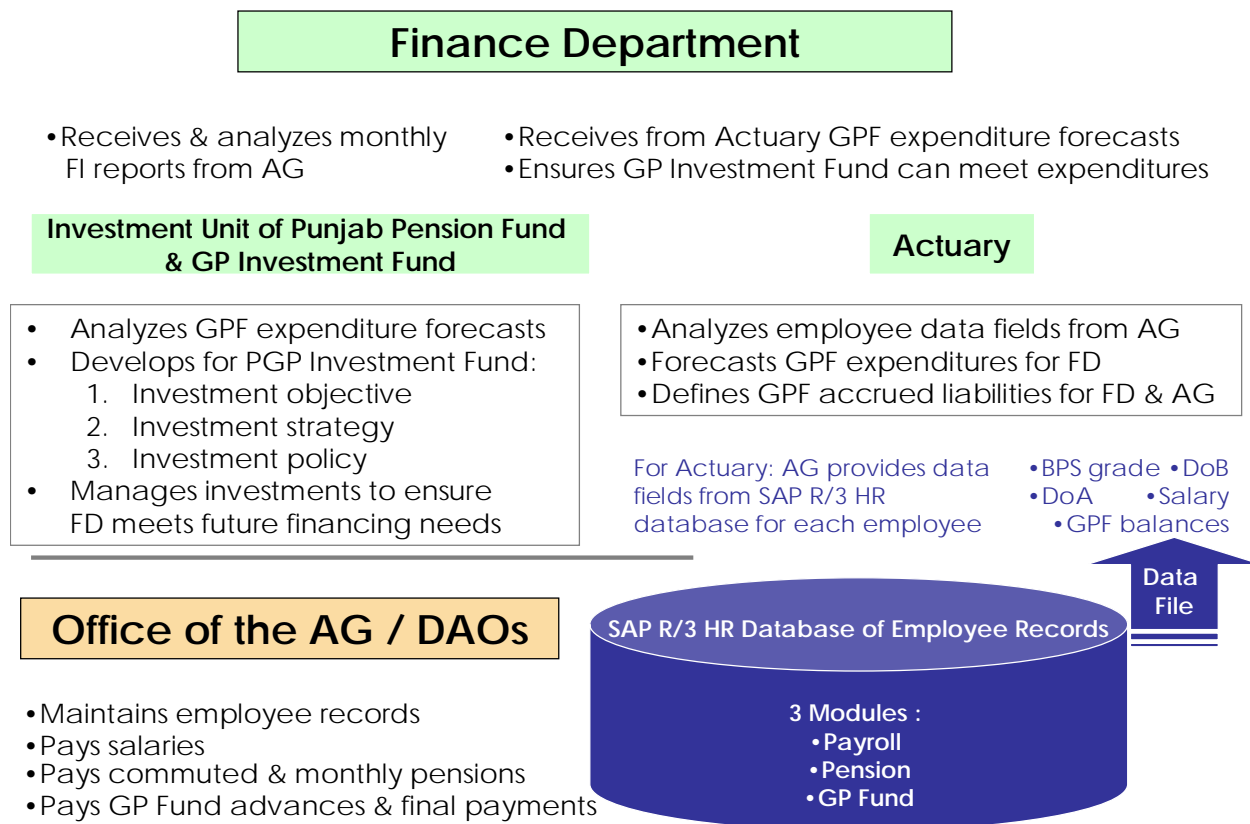
Source: PIFRA, Office of the AG Punjab, SAP R/3 HR Database, SAP CC Punjab .

<sup>[1]</sup> The SAP R/3 HR database cannot determine eligibility for family benefits.



13. The Finance Department, the Investment Unit of the Punjab Pension Fund (which includes investment management for the pension investment fund and the GP Investment Fund), the Actuary and the Office of the AG all depend on accurate basic data as was envisaged by the designers of the SAP R/3 HR database, but which has yet to be realized. From this basic data the Finance Department is expected to prepare long-term projections and develop and implement financing plans to ensure that these projections can be met:

**Figure 2 – How Finance Department and Actuary use Database**



14. Provincial and district employees experience massive delays ranging from several months to many years when making requests for final payment or advance from their GP Fund account. Because the SAP R/3 HR database has incorrect or incomplete data fields and missing subscriptions the GPF Module cannot be processed on the employee records. Thus, the data integrity problem – causes the delays. The Office of the AG and District Accounts Officers (AG / DAOs) requires evidence proving that mandated subscriptions were deducted from the employee's payroll. The Office of the AG explained that the majority of all existing employee records at the time of the establishment of the SAP R/3 HR database reflected one or more months of missing subscriptions. The inaccuracy of the employee records is further compounded as the majority are also missing and / or have incorrect data fields.

- a. The Office of the AG and the DAOs require that at the time of the employee's approaching retirement or when an advance is to be requested, the employee collect evidences from his current or past AG / DAOs or his current or past Departmental Drawing & Disbursing Officer (DDOs). Collecting evidence is time consuming and often

results in the employee failing – they are not trained to collect or knowledgeable of such esoteric documents, are not sure when they have correct the documents and encounter difficulty in collecting the needed documents from the DDOs. Once correct documents are submitted and validated by the AG / DAOs the information is updated in the AG / DAOs paper-based ledgers. The AG / DAOs then update the SAP R/3 HR database with missing subscription amounts. Identifying missing subscriptions and sending the employee to collect evidence that the AG / DAOs correctly deducted his mandated subscriptions is causing the severe delays. In other words, if GP Fund records for all employees were completely updated, there would no reason to delay processing an advance or final payment from a GP Fund account.

15. This process requires that the Departments allocate substantial resources to identify and search for evidence of deduction that the AG / DAOs properly deducted the amount of mandated subscriptions from an employee's payroll. The Office of the AG – through instructions issued by the Office of the Auditor General of Pakistan – has defined allowable evidence of deductions. But nowhere in this process has the provincial government developed and coordinated with the Office of the AG the best allocation of resources to collect evidences.
  - a. At present this process is ad hoc – one day one employee asks for an advance and so at that moment a mad scramble takes place to secure evidence of that employee's missing subscriptions.
  - b. The Consultants point out that this current method is: (a) neither an efficient nor accurate method to collect evidences; (b) an opportunity to solicit and offer bribes for accelerating searches of evidences or for creating false records to ensure acceleration of processing GP Fund account requests; (c) does not have the active participation by the provincial government to expend such resources to be allocated to such an ad hoc process; and (d) incomplete and fraught with likelihood of failure as the current method does not accurately define the goal – which would be to ensure all correct employee records on the SAP R/3 HR database – and define the process, resources, progress reporting, timeline, time-bound action plan and budget needed to achieve the goal.

***Coordination Between the Office of Auditor General of Pakistan, AG, PIFRA & FABS***

16. The Consultants note that there is no comprehensive effort in Punjab (or the Offices of other provincial AGs) to ensure correct employee records on which to calculate the GP Fund account balances. Guidance on converting and updating the SAP R/3 HR database for the existing employees (data fields, service history records, and missing subscriptions) as relates to the GP Fund accounts and the pension benefits has been provided by Financial Accounting & Budgeting Systems (FABS), a component of the Project to Implement Financial Reporting & Auditing (PIFRA), which reports directly to the Auditor General of Pakistan. But the guidance was designed for purposes other than to correct each employee record on the SAP R/3 HR database. The AG / DAOs address the conversion through a mix of steps ranging from a case-by-case approach as an employee requests a final payment at retirement, in response to a request for an advance, or to collectively update a single source of data such as available subscriptions from the ledgers. Continuing this course will not update the SAP R/3 HR database. A proper plan is needed to address how to go about: (a) correctly identifying for each employee record incorrect or missing data fields and quantifying missing subscription amounts; (b) targeting in a comprehensive manner a solution to assign the mandated subscription amount for all missing subscriptions; and (c) fix data field errors for each employee record.
17. Without a comprehensive approach the HR database will not contain correct information for GP Fund account histories and balances and the Finance Department will not be able to correctly forecast and manage its GP Fund liabilities.
  - a. Most recently the PIFRA / FABS office inquired of the Consultants whether an ADB-financed project would create and manage the conversion of the employee records on the SAP R/3 HR database.
  - b. PIFRA has indicated its continued interest in having all employee records updated but recognizes that the current process: (a) was not structured to update the records of all existing employees; (b) will not provide adequate support to ensure that the correct GP Fund account balance through the FI reports are provided by the Office of the AG to the Finance Department and to the Actuary; (c) will not provide adequate support to ensure that all missing subscriptions are identified and corrected; (d) will not provide adequate support to ensure that all service histories and data fields are identified, verified and updated; and (e) will not improve the current processing delays encountered by the employees and their survivors or the Departments.

### ***Pilot Program***

18. Despite an increasingly widespread understanding within the Departments of Planning & Development, Finance and Services & General Administration (S&GAD) that the records of 800,000 to 1 million employees contain errors, little analysis has been undertaken to define the scope of the problem. Decision making officials in these Departments need concrete information: an accurate count of the number of employee records containing errors, quantification of the amounts of missing subscriptions, average subscriptions and other indicators such as totals by Department and BPS grade. The ADB Pilot Program was designed, in part, to provide for the Pension Administration Taskforce<sup>6</sup> a comprehensive review and the start of quantifiable analysis to be define the extent of the problem and develop an understanding of viable solutions.
19. The ADB proposed the ADB Punjab General Provident Fund Pilot Program and provided assistance from the Consultants and the Pilot Team. The ADB developed two Terms of Reference (TORs): for the ADB Punjab Pilot Program Team and for the Office of the Accountant General. Appendix A includes a copy of the Pilot Team TORs and the AG TORs. The Chairman of the Taskforce and the Accountant General Punjab, with guidance and support from the Controller General of Accounts, authorized the ADB Pilot Program and agreed to the TORs.
20. The objectives of the Pilot Program were to: (a) identify the types of employee record errors that are factors delaying accurate processing of GP Fund advances and final payments; (b) evaluate the current manual process of collecting evidence of deductions of missing subscriptions and correct data fields; (c) propose and test parameters to develop quantifiable analysis of the employee records on the SAP R/3 HR database; and (d) discuss options and concerns that would need to be considered to overcome the delays. The Consultants were asked to recommend requirements that would enable employee records to be accurately updated on the SAP R/3 HR database.

### ***Need for Expanded Analysis***

21. Lack of analysis up to this point has greatly hampered decision-making by the PAT, the Finance Department and the Office of the AG. The Pilot Program validated that reliable analyses can be provided to quantify the amount and volume of missing subscriptions and enable the Finance Department to understand the cost of continued delay in not updating the SAP R/3 HR database.

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<sup>6</sup> The Pension Administration Taskforce (PAT) was notified by the GoP, which expressed its commitment to (a) improve the ability of the Finance Department to manage the Pension and GP Fund expenditures; (b) ensure that the Investment Unit of the Punjab Pension Fund & GP Investment Fund can develop and implement an investment strategy to finance long-term liabilities of the Funds; (c) ensure that the Office of the AG provides updated employee GP Fund data and account balances to the Actuary; and (d) eliminate delays experienced by employees in requesting GP Fund advances and final payments.

22. Analyzing the existing employee records on the SAP R/3 HR database would permit the Finance Department to accurately quantify the extent of the problem of incorrect employee records, design a solution and determine the appropriate resources to allocate. The number of existing employee records is estimated between 800,000 to 1 million employees<sup>7</sup>.
- a. Without analysis the PAT can only make non-quantified assumptions. The Finance Department would not know whether there has been correct identification of the causes of the problems to update the employee records, the resources needed to implement the solution are adequate or the progress measurement of such resource allocation would achieve the desired results.
  - b. With quantifiable analysis the PAT can: (i) define the best plan to correct the employee records; (ii) evaluate and allocate appropriate resources to implement the defined plan; (iii) define standards to measure accuracy and progress of the implemented plan; (iv) develop a budget to correctly implement the defined plan; (v) develop a training program to ensure that each person working on the defined plan is aware of his tasks; and (vi) develop a time-bound action plan to proceed – including monthly updates to the PAT.

### ***PAT Next Steps***

23. The Finance Departments, the provincial employees and their survivors, the Departments and the AG / DAOs need an immediate solution to ensure that all employee records are updated on the SAP R/3 HR database so as to generate accurate FI reports to the Finance Department and accurate data to the Actuary. Having all employee records updated on the SAP R/3 HR database will permit the AG / DAOs to process requests for advances and final payments in less than seven days. Other benefits would result related to decrease of fraud or errors in processing GP Fund and pension payments.
24. The PAT and the Finance Department would benefit greatly from quantifiable analysis of:
- a. The number of employee records missing subscriptions, values of the missing subscription amounts, BPS grades of the periods of missing subscriptions and other relevant data.
  - b. Separate and focused detail on amounts of missing subscriptions by Department, by cost center, by DAO and by BPS grade. Missing subscription amounts could be isolated for closer examination – such

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<sup>7</sup> The Consultants would propose the Office of the AG process an initial query in groups of 20,000 records at a time. This would permit a build-up over five days of 100,000 records that would not overwhelm the core processing capacity. After the data from the initial 100,000 employee records is analyzed a decision could be taken as to when to start the analysis of the next group of employee records. The Consultants emphasize that the capacity issue should be validated and dependent on the validation brought forward to the attention of the PIFRA project officers in a formal written communiqué. Given the seriousness the query should be initiated formally from the Accountant General Punjab and the Finance Secretary.



as a review of all employee records in which the total number of missing subscriptions exceeds a specific amount.

- c. Generating comprehensive financial analysis would permit the PAT and the Finance Department to understand whether options to consider using the auto-populate tool are more cost effective than to continue with a single requirement ignoring the underlying factors of the amounts of the missing subscriptions, allocation of resources and continued delays in having the SAP R/3 HR database updated.
  - i. "What if" scenarios could be illustrated. For example, the Finance Department may indicate that amounts of missing subscriptions that total less than Rs 1,000 should be credited without continued delay waiting on evidence of deductions while amounts of missing subscriptions that exceed Rs 1,000 would continue to require collection of the evidence of deductions. "What if" scenarios would then model the financial impact of such options that would show how many employee records would be impacted. Often the next logical step is to move up or down the "What if" scenario demarcation point. That would create a model that could allow the PAT and Finance Department to analyze the impact if the waiver of the collection of evidence of deduction were reduced from Rs 1,000 to Rs 500 or raised to Rs 2,000.
  - ii. Amounts of missing subscriptions are a function of three factors: (a) number of missing months; (b) the age of the missing subscriptions (older missing subscription periods are less than more recent time periods); and (c) the BPS grade (employees whose BPS grade was lower during the period of missing subscriptions had lower mandated subscription rates). For example, mandated subscription rates average less than Rs 1 per month regardless of the BPS grade for the period between 1968 – 1978 whereas mandated rates of the recent five years are considerably higher but less likely to be missing as the SAP R/3 HR Payroll Module automatically deducts the correct amount of the mandated subscription rates.

### ***Pilot Program Stakeholders***

- 25. The Consultants and Pilot Team interacted with stakeholders who work with the GP Fund records, transactions and would benefit from the Pilot Program.
  - a. Finance Department
  - b. Offices of the CGA and the Accountant General of Punjab
  - c. Pension Administration Taskforce
  - d. PIFRA Project and FABS
  - e. Employees and their survivors
  - f. Concerned Departments

### ***Methodology of the Pilot Program***

26. 1,000<sup>8</sup> employee records were provided to the Pilot Team by the AG / DAOs from the SAP R/3 HR database. The Pilot Team:
- a. Compiled in excel the 1,000 employee records to manage activities, monitor the status of records and support analysis of results; and validated the data fields of each employee record.
  - b. Followed the process used by the AG / DAOs and the Departments to collect evidence of deductions for missing subscriptions using a checklist the DAG GPF said is similar to allowable evidence of deductions currently requested by AG / DAOs. Service histories<sup>9</sup> of some employee records were also collected.
  - c. Assessed the current processing environment in Departments to recommend options to accelerate updating employee records onto the SAP R/3 HR database.
  - d. Analyzed the current manual process<sup>10</sup> of collecting evidence of deductions of missing subscriptions; tested an alternative method of determining missing subscriptions; and prepared analyses of findings.

### ***Pilot Team Findings***

27. The most important understanding or finding gained from the ADB Punjab Pilot Program is the fact that the Pilot Team was able to develop the basic information needed for quantifiable analysis. The PAT would not need to continue to rely on assumptions and generalized statements. The Pilot Team prepared analysis of over 1,000 employee records. It is on this analysis that decisions can be based on how to best define the problem of the incorrect employee records and missing subscriptions. This analysis represents the initial steps to: (a) eliminating the substantial processing delays experienced by the employees; (b) ensuring that the once the database is updated, the FI reports provided to the Finance Department will be correct; (c) ensuring that the Actuary will be provided correct GP Fund account balances and other required data fields. Examples of analysis are illustrated below:

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<sup>8</sup> The Pilot Program analyzed 1,000 employee records provided by the AG / DAOs from the SAP R/3 HR database. After many DDOs indicated that employee records were incorrectly allocated to their cost centers, the Pilot Team was forced to request additional records that resulted in more than 1,000 employee records being analyzed.

<sup>9</sup> Collection of service history was not originally included in the ADB Punjab Pilot Program TORs. The Pilot Team and Consultants, however, understood that the quantifiable analysis would be greatly enhanced if such records were verified and collected and the Pilot Team took on the additional task of collecting employee's service histories as circumstances permitted – ultimately more than 500 service histories were collected.

<sup>10</sup> Determining the amount and validity of deductions was completed through the: (i) manual method, in which the Pilot Team collected from the employee's current and past DDOs evidence of deductions; and (ii) and with a tool, referred to as auto-populate, that relies on updating the employee's service history to identify the employee's BPS for each period of missing subscriptions and assigning the mandated subscription rates.

Findings Related to Subscriptions

28. The Pilot Team collected the evidence of deductions of missing subscriptions for employee records and compared the manually collected amounts of evidence to output of a test financial model, referred to as the auto-populate tool. The comparison showed that when the employee's basic pay scale (BPS) grade for the month / year of the missing subscriptions was available the auto-populate tool correctly determined the amount using the mandated subscription rates. More information on the auto-populate tool is detailed in Appendix F, Explanation of Auto-Populate Tool.
29. The Pilot Team collected evidence from the Departments validating that the AG / DAOs correctly processed deductions for 80 percent of the missing subscriptions. The missing subscriptions average less than Rs 50 for each employee record.
30. Regarding the remaining 20 percent of the missing subscriptions, the Departments indicated to the Pilot Team three reasons for not collecting evidence:
  - a. The Departments could not locate evidence from their records rooms for 12 percent of the employee records and were unable to distinguish whether evidence exists but could not be located or evidence does not exist due to deductions not being made.
  - b. DPO Kasur reported that the DAO Kasur had not properly deducted mandated subscriptions for 2.5 percent of the employee records that made up the Pilot Program sample. In such cases there is no evidence to compile.
  - c. SP Telecom Lahore indicated that it could not compile evidence of missing subscriptions for 51 employee records (5.1 percent of the Pilot Program sampling) as an electrical short-circuit in 2006 resulted in fire destroying the contents of the Department records room.

Findings Related to Allocation of Resources

31. The Pilot Team validated the Departments are allocating an increasingly higher amount of resources each year to collect evidence of deductions without any formal decision appearing to be taken by the Government of Punjab that this is how the resources should be allocated. Further, the resources are allocated to collect evidence of deductions for relatively small amounts. The average amount of missing subscription for each employee record of the Pilot Program was less than Rs 50. The amount of resources allocated by the Departments ranged from more than one person day to several persons days for each case. When asked whether the amount of resources allocated is appropriate for the amount of evidence of deductions being collected, most Departments were unaware of the resources allocated.

Findings Related to Missing & Incorrect Data Fields

32. The Pilot Team analysis of employee records validated high levels of incorrect and missing data fields and missing subscriptions in the SAP R/3 HR database.
  - a. 53 percent of the employee records of the SAP R/3 HR database used in the Pilot Program are missing data fields and 86 percent reflect errors in the data fields. Examples of missing and erroneous data fields are DoB, DoA and CNIC. The causes of missing and incorrect data fields are reviewed in Chapter II, Pilot Program Key Findings.
  - b. 56 percent of employee records are missing subscriptions for 12 or fewer months, 21 percent are missing subscriptions for 13-36 months and 23 percent are missing more than 36 months of subscriptions. All of the 1,000 employee records generated from the SAP R/3 HR database included one or more missing subscription months as addressing the problems of missing subscriptions was a primary task.

Findings Related to Service Histories

33. The Pilot Team collected from the Departments service histories for almost 50 percent of the employee records by copying and attesting to the validity of the service books of non-gazetted employees. Examples of service histories include DoA, BPS grade, salary, designation, promotions and transfers.

**Case Study: Kasur**

34. The table reflects the comparison of the subscription amounts using the manual method by which the evidence of deduction was collected from the Departments and auto-populate tool used the employee's BPS for the month / year of missing subscription and automatically populated the amount of the mandated subscription rate for the corresponding month / year. The detail for each employee record is located at Appendix B.

**Table 2 – ADB Punjab GPF Pilot Program Kasur District**

Number of Employees	Department	Total Number Missing Months	Total Subs In Manual Method	Total Subs In Auto-Pop Method
19	Agriculture	179	8015	8015
18	Education	282	14960	14960
32	Health	1089	42640	42640
<b>69</b>	<b>Total</b>	<b>1550</b>	<b>65615</b>	<b>65615</b>

Source: DAO Kasur. Pilot Team calculations.

Amounts of Missing Subscriptions

35. 69 employee records reflected on average Rs 42.3 of total missing subscriptions
- a. The high value based on more months was Rs 90.28 (total Rs 6410 divided by 71 months) and the high value based on fewer months was Rs 200 (total Rs 1000 divided by 5 months).
  - b. The low value based on more months was Rs 17.38 (total Rs 1460 divided by 84 months) and the low value based on fewer months was Rs 30 (total Rs 60 divided by 2 months).
  - c. Average of 22 months of missing subscriptions per employee record – the high number of missing months was 84 and the low was 1.

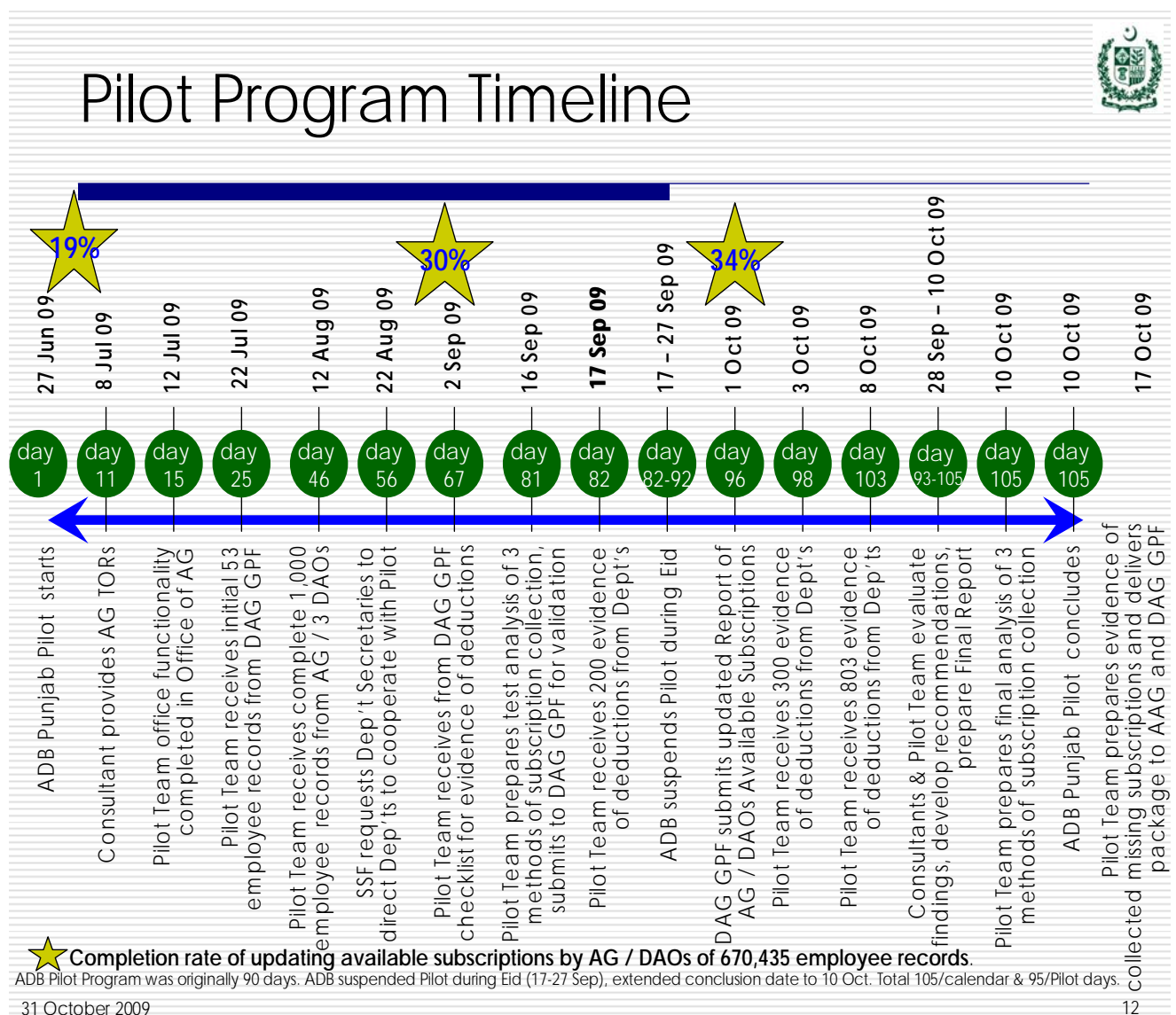
Resource Allocation

36. The Pilot Team analyzed the resources allocated to identify the average of Rs 42.3 of missing subscriptions.
- a. The Pilot Team allocated the following resources: 75 person days to collect the service history and evidences and prepare 12 letters from the Pilot Team to the Departments and the DAO Kasur.
  - b. The Departments allocated the following resources: 30 person days by Department: Health, Agriculture, Education and Police (although the majority of Police records were unusable).
  - c. The Pilot Team, the Departments and the DAO Kasur held 15 meetings in various combinations.

## CHAPTER IV – ADB PUNJAB PILOT PROGRAM

37. The Pilot Program was established to analyze the current status of employee records on the SAP R/3 HR database and the process of updating employee records to process GP Fund advances and final payments. The Pilot Team worked directly with the Departments of Finance, S&GAD, Education, Health, Police and in Kasur only Agriculture; the AG Lahore and the Sheikhpura, Gujranwala and Kasur DAOs. The Pilot Program operated for 95 days between 27 Jun 2009 and 10 Oct 2009, excluding a 12 day break over the Eid holiday. A summary of the highlights of the ADB Pilot Program are illustrated below.

**Figure 3 – Pilot Program Timeline**



38. The Pilot Team undertook a comprehensive review of processes to update employee records and secure evidence of missing subscriptions. The Pilot Team was provided 1,000 employee records from the SAP R/3 HR database by the AG Lahore and three districts: Gujranwala, Sheikhupura and Kasur.
- a. Complete the same process followed by Departments to compile evidence of missing subscriptions and validate the accuracy of key data fields;
  - b. Study alternatives to accelerate the conversion of paper-based historical GP Fund subscription records into the SAP R/3 database;
  - c. Compile and transfer GP Fund records to excel spreadsheets;
  - d. Document and analyze issues and problems encountered;
  - e. Conduct comprehensive analysis of collected data and originally submitted data – support recommendations with financial analysis; and
  - f. Propose recommendations and improvements to overcome problems through a comprehensive and integrated plan.

### ***Activities***

39. The Pilot Team:
- a. Analyzed 12 data fields of more than 1,600 employee records from the SAP R/3 HR database. The higher than expected number of employee records reviewed was required as many of the original 1,000 employee records did not meet specifications of the AG TORs. For example, the AG / DAOs agreed that the Pilot Program would use records for 1,000 employees located in 15 separate cost centers. The records provided, however, consisted of 57 cost centers and as such many employee records could not be used. The AG / DAOs were instructed to swap out original records for new records that met the specifications. After the AG / DAOs swapped off the employee records, the Departments advised the Pilot Team that approximately 25 percent of the records had pending data field changes, which again invalidated the records for purposes of the Pilot Program as they failed to meet the specifications. The AG / DAO again replaced with additional employee records. The total employee records provided to the Pilot Team was 3,000, of which 1,000 constituted usable employee records. Examples of pending data changes include employees who had: 1) transferred from one Department or location to another (cost center data field changes); 2) retired (activation of date-of-retirement data field, generation of final payment of General Provident Fund account balance); and 3) died (activation of date-of-death data field). The time period in which to conduct the analysis on 1,000 employee records and validate the data fields, collect evidence of missing

subscriptions, punch subscription amounts and analyze the three methods was reduced from an original plan of 60 days to 45 days.

- b. Compiled and reviewed approximately 9,000 documents submitted by the Departments including almost 500 copies of employees' service books of non-gazetted employees.
- c. Communicated with the Departments through in-person visits and written correspondence. The Pilot Team conducted 31 meetings with and prepared and issued 57 communiqués to the Departments.
  - i. Written requests were prepared by the Pilot Team for the Special Secretary Finance to request that the Department Secretaries notify the relevant DDOs to provide documentation. The Pilot Team met with each DDO during which the DDOs conveyed their lack of knowledge of the requests from their Department Secretaries. In each case the Pilot Team met with the DDO, explained the Pilot Program and provided copies of the notifications from Department Secretaries to the relevant DDOs.
  - ii. Despite frequent Pilot Team in-person intervention, continued written communication and instruction from their Departmental Secretaries widespread delays by the Departments was common. Of the 803 employee records for which evidence of deductions was provided, almost 500 were received in the final 10 days of the Pilot Program. Appendix X reflects copies of the communication from the Special Secretary Finance and Department Secretaries.
- d. Conducted a preliminary test analysis of employee records comparing results of three methods of populating subscriptions to determine if a new tool being tested, referred as the auto-populate tool, would produce the same results as the current manual method undertaken by the Departments. The results indicated that the auto-populate tool and the manual methods achieved the same results. The auto-populate tool, however, was more efficient compared to the manual method. The findings of the initial 53 employee records were provided to the DAG GPF.
  - i. To conduct the analysis comparing the three methods, the auto-populate tool and the productive method require accurate data fields and key components of the service history such as the employee's accurate DoA, DoB, current designation and changes in designation, and current BPS and changes in BPS.
  - ii. The Pilot Team Data Collectors found that the Departments often could not easily access documents with the required data field or service history information. In some cases the Pilot Team directly contacted employees to obtain acceptable documented evidence.



### ***Interaction with the Departments***

40. Concerns raised by Departments were often related to the inadequate structure of their records rooms and their inability to retrieve documents being collected by the Pilot Team. Departmental records rooms are commonly filled with the pay bills, pay rolls and other paper accumulated over decades. Document retrieval under these conditions is difficult. The situation was compounded when the Pilot Team Data Collectors requested pay bills of specific years to locate evidence for employees that the Departments later told the Pilot Team had transferred out the Department or DDO but due to delays in processing data change forms at the AG / DAOs, the records provided to the Pilot Team were out of date and could not be used.
41. The Pilot Team would then return to the Departments with the new swapped out employee records and again request that the Departments would locate in their records the evidence of deductions. In some cases the Departments were not inclined to assist further. The Pilot Team Data Collectors would offer in those cases to locate the records themselves. In extreme cases Departments declined cooperation even to the point of refusing the Pilot Team direct access to records. In other cases Departments confirmed that they searched and could not locate the evidence but it did not always appear to the Pilot Team that a search had been conducted. In other cases some documentation was provided but it was incomplete, incorrect or applied to different employees. Appeals to the Department Secretaries did not produce responses.

### ***Impact of Incomplete Updating of Available Subscriptions***

42. An AG / DAOs updating and progress monitoring plan<sup>11</sup> has been developed and implementation has been underway since 7/2008 to compile, verify, punch, verify (CVPV) and upload available subscriptions<sup>12</sup>, from ledgers to an employee record. When missing subscriptions are identified, they are skipped over. The service histories and the majority of the required record data fields are not included on the ledgers and as such the plan to update available subscriptions cannot also address these. 34 percent of employee records have been updated with available subscriptions through 9/2009 with 66 percent of the records pending completion.
  - a. The progress of the available subscriptions updating plan is monitored by PIFRA and the World Bank as they are financing a stipend paid to KPOs and Auditors. Progress monitoring is also occurring through the ADB, the Taskforce and the ADB PGEIP Consultants.

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<sup>11</sup> Report of uploading the available subscriptions is required by PIFRA project and FABS. This information is also reported to the Finance Department, the ADB and its Consultants.

<sup>12</sup> Available subscriptions are reflected on ledgers in the offices of the AG / DAOs while missing subscriptions as their name implies are missing and not located on the ledger. In actuality the missing subscription of one DAO is often an available subscription in another DAO. DAG GPF provided to the Pilot Team a checklist of allowable substitutes that can be used as the documentation in place of ledger entries. Appendix X includes the checklist prepared by the DAG GPF of the acceptable documentation.

- b. The Finance Department scheduled a third AG / DAOs meeting to review the progress of updating the available subscriptions 2 November 2009 to refocus the attention of concerned officials on this task.
43. SAP R/3 HR database functionality can identify which employee records are missing subscriptions and the time period of each missing subscription (month(s) and year(s)). Despite this functional ability, such analysis has not yet been undertaken. In other words, the Office of the AG does not know how many employee records today are missing subscriptions. The DAG GPF and the PIFRA project officers in Islamabad discussed with the Consultants plans to identify and quantify the number of employee records that have missing subscriptions once all available subscriptions have been uploaded. The 1,000 employee records of the Pilot Program all had missing subscriptions and thus an extrapolation of the Pilot Program data is not applicable to the total universe of employee records.
44. The Consultants discussed with the DAG GPF and AAG merits to running a report at this time, however, even without all the available subscriptions being updated. The rationale for doing so now is the simple need to quantify how extensive and widespread is the level of missing subscriptions. The feedback was that the functionality of running such a report would have the effect of preventing other updating and processing on the SAP R/3 HR database. If this is the case, the Consultants strongly urge that this matter be discussed with the PIFRA project officers in Islamabad as it indicates a weakness in being able to run reports of all GP Fund accounts that may be attributable to the processing capacity of the hardware and memory in AG Punjab.
45. Once the task of the AG / DAOs to upload the remaining available subscriptions is completed the Consultants and Pilot Team expect that the number of employee records with missing subscriptions would be reduced.

#### ***Missing Subscriptions and Designated Data Fields***

46. The AG / DAOs ask an employee to collect from his Department evidence that the AG / DAOs in past years did not commit error or fraud and did properly deduct subscriptions from salaries. The AG / DAOs ask this to be collected by the Departments is that the AG / DAOs cannot prove using readily available documentation from past years that is located in the offices of the AG / DAOs. And, while this collection of evidence is taking place, the employee waits, the Finance Department is provided incorrect GP Fund information and the Actuary is not provided the data needed to do his prepare forecasts of future liabilities.
47. Due to lack of a communication protocol between the AG / DAOs and the Departments, the employee becomes the go-between, further slowing the process. The AG / DAOs verbally direct employees to ask for copies of evidence of deductions for missing subscriptions from their Department records rooms. Verbal instructions create misunderstanding, confusion and incorrect information being compiled. The current process is more fully

detailed in Chapter VI, Background Details for Requests for GP Fund Advances and Final Payments

48. The impracticality of continued reliance on paper-based evidence collection is reinforced throughout this Report as the resources allocated are extraneous, the results often do not produce the desired result and increasingly the documents no longer exist – they have already been destroyed, lost or deteriorated beyond use. In 2010 employees attaining age 60 will have DoAs from 1968-1975 and their paper-based records will date from that period as well. The Actuary estimates that 22,000 employees will attain age 60 over the next 3 fiscal years, employees who complete 25 years-of-service may retire earlier – most likely increasing the processing requirements for final payments beyond 22,000 and correspondingly increasing the reliance on the paper-based information that is more than 25 years old.
49. No plan has been developed to *update remaining missing subscriptions* (after the task of *updating of available subscriptions* is completed), service histories or designated data fields. Instead, the work is undertaken on a case-by-case basis at the time an employee requests an advance or commences retirement and requests his final payment or in the case of the employee's death or invalidity. At that time there is a rush to complete the missing subscriptions as it acting as obstacle to the payment being made to the employee or survivor. The following table highlights these timing issues.

**Table 3 – Summary of Process to Convert General Provident Fund Paper-based Documents to SAP R/3 HR Database**

	<b>Available: Subscriptions, Advances &amp; Repayments</b>	<b>Missing: Subscriptions, Advances &amp; Advance Repayments</b>	<b>Missing: Service History &amp; Data Fields</b>
<b>When needed</b>	Between employee's attainment of age of superannuation or completion of years-of-service; at death or invalidity of employee	Between employee's attainment of age of superannuation or completion of years of service; at death or invalidity of employee	Between employee's attainment of age of superannuation or completion of years of service; at death or invalidity of employee
<b>Advance notice to prepare before needed</b>	From days to years	Generally less than 6 months; will be sooner for request of advance or due to death or invalidity	Generally less than 6 months; will be sooner for request of advance or due to death or invalidity
<b>Source to compile / location of source</b>	Ledgers in AG / DAOs offices	AG / DAOs ledgers, other documents in Department file room or both	Original documentation from employee appointment, promotion, position or location transfer, other HR activities
<b>Responsible party</b>	AG / DAOs	Unknown in advance: can be AG / DAOs or Departments or both	Unknown in advance: can be AG / DAOs or Departments or both
<b>Ease of access</b>	Easy	Extremely difficult	Unknown in advance: varies between easy to extremely difficult
<b>Length of time to compile</b>	Based on number of monthly subscriptions – function of length of service	Unknown in advance and based on ease of retrieval of documents and number of monthly subscriptions: each source document retrieved can require between 1 day – 1 month	Unknown in advance and based on ease of retrieval of documents: each source document retrieved can require between 1 day – 1 month
<b>Defined plan to complete; monitoring plan</b>	Defined plan assigned to AG / DAOs; Progress measurement & monitoring by AG, CGA, PIFRA, FD, ADB	No defined plan; No progress measuring & monitoring by AG, CGA, PIFRA, FD, ADB	No defined plan; No progress measuring & monitoring by AG, CGA, PIFRA, FD, ADB

Source: Compiled by Consultants with information provided by AG / DAOs and DDOs; ADB Pilot Team. June - September 2009.

## CHAPTER V – KEY FINDINGS OF THE PILOT PROGRAM & LESSONS LEARNED

### *Analysis of Employee Records*

50. The AG / DAOs provided to the Pilot Team 1,000 employee records missing subscriptions and 12 data fields for each record.

**Table 4 – Employee Records: Information Transferred from the SAP R/3 HR Database**

District	Total Employees	Pilot Employee Records / % Total DAO Employees	Departments				
			Finance	S&GAD	Ed	Police	Health
Lahore	99,365	500 / 2%	50	50	150	150	100
Sheikhupura	32,955	200 / 1.6%			100	50	50
Gujranwala	26,033	200 / 1.3%			100	50	50
Kasur	15,960	100 / 1.6%			50	25	25
<b>Total</b>	<b>174,313</b>	<b>1,000 / 1.7%</b>	<b>50</b>	<b>50</b>	<b>400</b>	<b>275</b>	<b>225</b>

Source: Finance Department, Office of the AG and Pilot Team. In Kasur only the Pilot Team also analyzed employee records from the Agriculture Department reflected in the totals for Police.

51. The Pilot Team carried out the following tasks:
- Validated that the records provided by the AG / DAOs met the specifications of the AG TORs, where they did not the AG / DAOs were asked to replace with employee records that met specifications.
  - Communicated in-person and in-writing with each Department to collect evidence of the missing subscriptions.
  - Analyzed and validated approximately 9,000 documents collected, attested, copied and submitted by the Departments.
  - Analyzed methods of collecting subscriptions and compared findings.
52. The Office of the AG and the DAOs Kasur, Sheikhupura and Gujranwala carried out the following tasks:
- Provided 1,000 employee records and identified periods of missing subscriptions and data fields.
  - The DAG GPF prepared a checklist of required documentation that the Office of the AG would accept as allowable evidence of deductions for missing subscriptions.
  - Validated the collected evidence against the DAG GPF checklist and updated the employee records with the missing subscriptions.

53. The Pilot Team analyzed for correctness the 12 data fields. The analysis reflected a high percentage of erroneous or missing data fields – 53 percent of all employee records contained missing data fields and 86 percent of the employee records contained erroneous data fields.

**Table 5 – Employee Records and Analysis of Data Fields**

Districts	Employee Records	Missing Data Fields			Incorrect Data Fields		
		1	> 2	Percentage	1	> 2	Percentage
Lahore	598	286	118	68%	204	247	75%
Gujranwala	204	89	2	45%	171	22	95%
Sheikhupura	191	47	2	26%	145	46	100%
Kasur	95	30	0	33%	93	2	100%
<b>Total</b>	<b>1,088</b>	<b>453</b>	<b>122</b>	<b>53%</b>	<b>614</b>	<b>317</b>	<b>86%</b>

Source: AG / DAOs. Calculations by the ADB Pilot Team.

54. The Pilot Team analyzed the missing subscriptions. The analysis reflected a lower than expected number of missing subscription months. The Consultants were frequently told that a high number of employee records had a high number of missing subscription months. The employee records provided by the AG / DAOs did not reflect this. Indeed there may be fewer employee records with longer periods of missing subscriptions than was understood or one or both of the following factors influenced the number of missing subscription months.

- A true random sample was not provided from the SAP R/3 HR database as the AG / DAOs selected the employee records, which could have unintentionally produced a biased sample.
- An anomaly may have been caused by the fact that the focus of the Pilot Program focused on records with missing subscriptions of employees after 6/1986.

**Table 6 – Employee Records and Analysis of Missing Subscriptions**

Missing Subscriptions	Employee Records	
	Number	Percentage
1-12 months	607	56%
13-36 months	233	21%
37-60 months	115	11%
61-84 months	56	5%
85 months and onwards	74	7%
<b>Total</b>	<b>1,088</b>	<b>100%</b>

Source: AG / DAOs. Calculations by ADB Pilot Team.

55. The Pilot Team analyzed the evidence submitted by the Departments.
- a. The Departments confirmed that the AG / DAOs correctly deducted subscriptions for 80.3 percent of employee records.
  - b. SP Telecom Lahore could not produce evidence of deductions for 5.1 percent of employee records (51 employees) due to a fire in the records room that destroyed the evidence of deductions and service histories.
  - c. DPO Kasur confirmed that the DAO did not deduct subscriptions from pay for 2.5 percent of employee records (25 employees) for 18 years. The Pilot Team notified the Office of the AG that the DPO Kasur reported that mandated subscriptions were not deducted.
  - d. The Departments could not confirm for 12.1 percent of the employee records whether the deductions had occurred or whether they had occurred but were unable to locate evidence of deductions.

***Transfer of Pilot Program Work to the Office of the AG***

56. The Pilot Team formally transferred<sup>13</sup> on 16 October 2009 to the DAG GPF evidences of deductions for the above referenced 805 employee records and 500 service histories. The Consultants and Pilot Team asked the Office of the Accountant General to ensure that the evidence is updated on the SAP R/3 HR database. A copy of the notification is at Appendix C.
- a. Validate the correctness of the evidences provided by the Departments;
  - b. Update the ledgers with the evidences of deductions of missing subscription amounts; and
  - c. Update SAP R/3 HR database with amounts of missing subscriptions from ledgers.
57. The evidences collected were allocated to the AG / DAOs as follows:
- a. 398 to AG Lahore
  - b. 173 to DAO Gujranwala
  - c. 160 to DAO Sheikhpura
  - d. 74 to DAO Kasur

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<sup>13</sup> The formal transfer of the evidence of deductions was later than initially planned. The Pilot Team only received from the DAO Gujranwala evidence on 200 missing subscriptions on 7 and 8 October, which were verified, punched and analyzed over 4 days. The Office of the AG was inaccessible part of the day 15 and 16 October due to the law and order situation.

### ***Allocation of Resources***

58. A major concern referenced by the Finance Department and the Office of the AG and is noted by the findings of the Pilot Program is the ratio of time allocated by the Departments to compile evidence of deductions. For example, one particularly difficult collection of an employee's evidence of deduction required five and half person days by Pilot Team Data Collectors and substantial time by the Department to search the records room. The result was positive in that the evidence was ultimately collected. The amount in question was Rs 20 / per month for five months. Although this is only a single example, it illustrates the point that a high allocation of resources was made to validate whether the AG / DAOs correctly deducted from payroll mandated subscriptions of Rs 100.

### ***Missing & Incorrect Data Fields***

59. A data field is different from a subscription amount in that a data field contains indicators – or indicative data – about the employee at a given point in time. Examples of data fields include: employee name, father's name, permanent address, CNIC, DoA, DoB, BPS grade, salary, cost center and more.
60. When the Payroll Module is processed each month the SAP HR database uses the data fields to calculate salaries and allowances, process payroll, taxes and GP Fund deductions. When the GPF Module is processed for an advance or final payment the SAT HR database uses the data fields to calculate interest and GP Fund account balances. When the Pension Module is processed at an employee's retirement the SAP HR database uses data fields to calculate commuted and monthly pension benefits. Past decisions were made related to which data would be used to initially create the SAP R/3 HR database. One option evaluated and ultimately implemented was to create a record for each employee with limited functionality with the intent that a more robust conversion of remaining data would be undertaken by the Departments and the AG / DAOs at a later date. Although the development of subsequent strategies to identify data needed to update the employee records were undertaken, they do not appear to the Consultants to have comprehensively evaluated and matched each SAP R/3 HR database fields to each source of paper-based documents.
- a. An example of one decision taken was to update the SAP R/3 HR database with available subscriptions that had been deducted for the period between an employee's DoA and the time at which the Payroll Module began to automatically deduct subscriptions. This was started but has not yet been completed as indicated throughout this Report. The Office of the AG confirmed that various obstacles have delayed the completion of this task. Some AG / DAOs experienced difficulty hiring staff to compile the available subscription amounts while others experienced difficulty hiring KPOs to punch the compiled amounts. The Finance Department held a meeting of the AG / DAOs in 10/2008 to review these issues. The Chairman PAT instructed the hiring of adequate staff for these positions. Other delays were related to the



general workloads of the offices. Still other comments were that the ledgers had not been consistently updated and therefore the compilations of amounts could not be made. The anecdotal nature of these reports is vague and does not permit specific management and assessment to take place. The Consultants point out that consideration should be given to transferring this task to the comprehensive conversion plan to ensure proper measurement, update and completion.

61. The process to convert to the SAP R/3 HR database was initiated through the automation of payroll functions. The Office of the AG confirmed that identification was made of the minimum number of data fields necessary to process the HR Payroll Module. For each employee record, the following information was compiled and entered into the SAP R/3 HR database: employee name, current BPS grade, current cost center, current deductions and current allowances.
62. The remaining data fields (there are more than 100 according to PIFRA) were allowed to remain blank, which accounts for missing data fields, or were assigned "dummy data"<sup>14</sup> if required in order to commence payroll. Thus, the 53 percent missing data fields were not later substituted with correct data and some of the 86 percent of the incorrect data was dummy data that has never been correctly set to compiled correct data fields.
63. The data fields used by the SAP R/3 HR database to calculate a GP Fund account balance for purposes of processing an advance or final payment need to be correct and the subscriptions must be updated from DoA to date of commencement<sup>15</sup> of SAP R/3 HR Payroll Module. Since 4/2004, the importance of the DoA, DoB and other data fields have been known and problems associated with the missing or incorrect data fields have been identified.

### ***Missing Subscriptions***

64. When the SAP R/3 HR Payroll Module was initially implemented, a plan was developed between FABS, PIFRA and the Offices of the AGPRs and AGs to compile previously recorded available subscriptions from the ledgers. For Punjab, implementing this did not materialize formally until July 2008. The decision was taken as indicated above to update available subscriptions onto the SAP R/3 HR database but the process has not been completed. This

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<sup>14</sup> Dummy data is universal term for inserting data that is not real but for fields that must be populated in a program, for example in processing a conversion. A universal standard is to use one pre-designated format. Most programmers pre-arrange dummy data as the date of conversion or some other either to identify data so that it can be easily searched and swapped off with the correct data once the correct data is compiled. This was not done in the case of dummy data in Punjab.

<sup>15</sup> Conversion to the SAP R/3 HR Payroll Module commenced effective April 2004 for Punjab but not all employees were converted immediately. The conversion was effective for various DAOs on various dates and extended for several years. For ease of reference in this Report, the date 4/2004 refers to commencement of Payroll Module but actual commencement dates may vary slightly.

continued delay to update the subscription information from ledgers onto the SAP R/3 HR database contributes to the delays experienced by the employees seeking advances or final payments.

65. Once available subscriptions are updated, it is expected that there will still be employee records with missing subscriptions related to subscriptions that were not properly recorded and to employees whose subscriptions have been recorded with more than one DAO due to transfers to different offices.

#### ***Additional Factors***

66. Departments are not provided access to the SAP R/3 HR database to know the information that is missing; instead the employee is sent to the AG / DAOs to find out and return to the Department to ask for evidence of subscriptions for specific months to be compiled. The information is conveyed verbally (from AG / DAOs to the employee and from the employee to the Departments) increasing the likelihood of errors, misunderstandings and mistakes.
67. The records rooms of the Departments are not structured to permit accurate and efficient processing of requests for evidence – the process is lengthy and may result in no evidence being collected. The Consultants observed that the Department records rooms are little more than storage rooms for vast amounts of papers compiled over 10, 20 and 30 years.

#### ***Impact of Other Data Field Issues***

68. The problems caused by the lack of service histories and missing and incorrect data fields are further compounded by volume and other delays in processing changes (corrections) to data fields.
69. The Departments prepare paper-based data change forms through the course of initiating employee HR actions such as promotions, changes in assignments, increase in salaries and relocation to different offices, schools or police facilities. The Departments also can identify and prepare data field changes to correct missing or incorrect data fields. Data field changes are sent from the Departments to the AG / DAOs Payroll Sections for review and are punched by the AG / DAOs GPF Labs.
70. The Consultants attribute delays in processing data field changes to four problems: 1) Departments often fail to originate data field changes in a timely manner; 2) Departments are limited to a short window to submit changes to be processed by the AG / DAO for each month 3) data change volume punched by the GPF Labs exceeds current KPO staffing capacity at many locations; and 4) workflow process and procedures are lengthy, which further delays processing.

### ***Analysis of the AG / DAOs***

71. In recent years the AG / DAOs have reduced some processing delays through expanded implementation of SAP R/3 HR functionalities through the Payroll, Pension and GPF Modules.
72. The SAP R/3 HR Payroll Module is presently used by the AG / DAOs for about 80 percent of the employees. The Payroll Module calculates pay based on the BPS grade and salary, credits pay directly to employee bank accounts, calculates tax withholding, GP Fund deductions and factors allowances. Despite this revolution in processing pay, almost 20 percent of the employees are still paid manually. The Office of the AG cited several reasons for the delay in converting 100 percent of the employees onto the Payroll Module.
  - a. Some employees were not earlier included in the conversion as they did not provide bank account information. The Payroll Module directly credits employee salaries into the bank accounts. This is the first group expected to be included in the Payroll Module on the next round of updates. Other employees who live in remote locations will still have difficulty according to the Office of the AG. Part of the pending analysis referenced elsewhere in this Report is to quantify how many employees are not within an easy location of a bank or post office for purposes of having their salaries directly credited.
  - b. Anecdotally the Consultants were advised that some offices may continue manual pay as they believe it is easier to stay with a "known and trusted method" rather than convert to a new method. But as the overall provincial conversion to SAP Payroll Module was completed in 4/2004 the Consultants question why – after five and half years – some offices are permitted to continue manual pay. Other comments made to the Consultants were that if an office is engaged in fraud or uses manual pay as an opportunity to collect bribes in exchange for handing over pay, these offices would not be interested in converting to the SAP R/3 HR Payroll Module.
  - c. Continuing manual pay continues the opportunity for the creation of new missing subscriptions or for deductions not to be properly processed. This is the case regarding DPO Kasur in which the DPO notified and attested that mandatory deductions have not been made for 18 years – with no negative consequences to the DAO. At the risk of stating the obvious, the Consultants emphasize that conversion of 100 percent of employees to the Payroll Module would have the effect of immediately halting the creation of new missing GP Fund subscriptions.
73. The GPF Module is a functionality that processes requests for advance or final payment. Despite implementation of the GPF Module, which has improved the accuracy and speeds the processing of advance and final payment requests, delays continue. The GPF Module includes three key functions that had been previously manually completed with varying degrees of compliance: auto-initiate repayment transaction (for advances that require

repayment); auto-calculate limit on advances; and auto-calculate accumulated interest on subscriptions made over an employee's 25 to 42 years-of-service. Prior to the implementation of the GPF Module, GP Fund account balances were manually calculated by the AG / DAOs – a time-consuming task that further aggravated the processing of advances and final payments as it is prone to human errors in the calculations. Prior to the implementation of the GPF Module, repayments of advances required an additional step to create and generate a transaction to commence advance repayment (for advances that require repayment). The Consultants were told anecdotally that not all advances that required repayment included this additional step of preparing and processing the repayment transaction. Indeed, the examples provided to the Consultants were that some unscrupulous employees would bribe unscrupulous officials to not generate the transaction, thus obviating the need for repayment of their advances.

74. The DAG GPF informed the Consultants that AG Lahore has been using the GPF Module for final payments since July 2009 and for advances since April 2008. The GPF Module was implemented in the DAOs in 2008 / 2009 for both advances and final payments. The implementation schedule was not validated by the Consultant but it is recommended as one of the steps in the comprehensive conversion plan to include a validation that each AG / DAOs are using the GPF Module exclusively. The GP Fund records of employees who are not paid using the SAP R/3 HR Payroll Module are not reflected on the SAP R/3 HR database and the GPF Module cannot be used on their requests. In those cases, manual GP Fund account balance is still required and manual processing of their requests for advances and final payments are still required.

### ***Procedures for Special Cases***

75. The Pilot Team examined and followed the basic procedures in practice between the Departments and AG / DAOs to secure evidence of deductions and noted five categories of special cases for which the AG / DAOs were unable to confirm procedures. The Consultants observed that the processing of advances and final payments for employee records that fall into these special cases almost always resulted in further delays. A description of the special cases lacking procedures encountered in the course of the Pilot Program include:
- a. Missing subscriptions before 4/2004 that should have been and were deducted from manual pay but were not manually recorded in the ledgers by the AG / DAOs and later the back-up evidence was destroyed through fire in the Department records rooms or through age and natural deterioration of paper-based records. Procedures have to be developed that define rules for when evidence stored in the Departments' records rooms has been destroyed.
  - b. Missing subscriptions that should have been but were not deducted from manual pay. Procedures have to be developed that define the parameters under which the past missing deductions are made from current pay and a protocol to follow that defines who is responsible for

making the correct deductions, what options would be available to the employees in electing the time period over which the corrections occur and who is responsible for notifying the employee. The example encountered in the Pilot Program was DPO Kasur in which mandatory deductions were not made for 18 years for 25 employees – up to 5,400 deductions will need to be corrected and the SAP R/3 HR database records updated. Although this situation appears extreme the DPO Kasur reports it as valid.

- c. Missing subscriptions after 4/2004 that should have been and were deducted by the SAP R/3 HR Payroll Module but are not reflected on the SAP R/3 database. Procedures would have to be developed to define who requests correction of this problem through the PIFRA project. Following correction, procedures would need to be applied to ensure the correct updating of affected employee records on the SAP R/3 HR database.
  - d. Missing subscriptions for employees who were deputized to the Foreign Service or a project and were not paid through general revenues, were not paid by the SAP R/3 HR Payroll Module but later manually paid their mandatory deductions, but the deductions were not recorded on the SAP R/3 HR database. Procedures would need to be developed to ensure that the manually paid deductions are properly updated on the SAP R/3 HR database.
  - e. Missing subscriptions for employees whose DoA is before 6/1986 and who elected a subscription rate higher than the mandated rate and whose deductions were made. Procedures would need to be developed to ensure that rates higher than the mandated rates are recorded.
76. The Consultants recommend that a task to prepare recommendations for the development of procedures for the above special cases be part of the financial analysis tasks in the conversion plan and be recommended to the PAT.

### ***Lessons Learned from the Pilot Program***

77. The Consultants analyzed the Pilot Program TORs, order of activities, delays encountered and accomplishments achieved to recommend changes that should be considered in implementing the conversion plan.
- a. *Issue:* The compilation of initial employee records by the AG / DAOs was a more time consuming task than originally expected. There was not a widespread understanding of the SAP R/3 HR database. For example, the ADB Pilot Team requested that the employee records would represent 15 cost centers that would represent 15 DDOs. This number was selected to both ensure an adequate analysis of the largest Departments such as Education, Health and Police and a mix of various DAOs. But the employee records produced were from 57 cost centers. When asked for an explanation of this difference, it was

apparent that the AG Lahore was not familiar with the cost center numbers, a basic concept used in the SAP R/3 HR database and SAP R/3 FI database. Time was lost to the Pilot Team as it was not until day 46 of the Pilot Program – almost halfway through the Pilot – before all required employee records were provided to the Pilot Team. *Change:* Additional efforts to analyze the employee records should be made available directly from the SAP CC team in the form of a excel file that would permit future work to access data as needed and not rely on manual extractions of data on a case-by-case basis.

- b. *Issue:* The AG / DAOs have been updating available subscriptions from the ledgers. At the start of the Pilot Program the AG / DAOs had completed updating available subscriptions for only 19 percent of the employee records and by the conclusion 34 percent of the employee records were completed. It is estimated that half of the employee records for which the Departments collected evidence of deductions appeared on the AG / DAOs ledgers and had this updating been 100% completed, the Departments would not have had to produce the evidence. Having this task 100 percent completed will reduce the number of missing subscriptions recorded on employee records. *Change:* Updating the employee records with the available subscriptions recorded on the ledgers would be helpful and probably alleviate many of the delays that the employees are experiencing as they try to have their payments processed. But the Office of the AG appears unable to complete this task and – even when it is completed – many missing subscriptions will remain. Thus the proposed change would be to find an alternative to the AG / DAOs updating the missing subscriptions.
- c. *Issue:* Deployment of the full Pilot Team was coordinated to a single start date. As unexpected delays were encountered, it was determined not to be the ideal situation. *Change:* In future project like work, provide latitude to the project management to stagger deployment of various team members such as data collectors, data analysts to better coordinate with actual workflow. Initiate members of the management of the new project and key technical members to prepare an initial analysis.
- d. *Issue:* Not all changes to data fields authorized by the Departments for HR activities such as promotions and transfers had been updated onto the SAP R/3 database by the AG / DAOs. The Departments provided examples of data changes that had been delayed for 1-6 months. *Change:* AG / DAOs would need to prioritize processing of data field changes. (This accounted for one of the reasons that replacement employee records were required to be submitted by the AG / DAOs at the start of the Pilot Program.)
- e. *Issue:* Each Department is at various levels of status as relates to their PIFRA productive status. The compressed timeframe of the Pilot Program did not allow time for a comprehensive analysis to be conducted of each Department. Having such findings would permit

the new project to segment and define the requirements necessary to roll-out a provincial wide conversion plan. *Change:* The DAG Computers confirmed that her office is conducting an analysis of the computer and internet accessibility of each of the DDOs – 25,900 for both provincial and district governments. The Consultants would advise that this analysis should be shared with the PAT.

- f. *Issue:* Although letters were prepared by the Pilot Team from the Pension Administration Taskforce and from the Secretaries to their DDOs, all Departments visited by the Pilot Team Data Collectors were unaware of the Pilot Program and their expected involvement. *Change:* In future endeavors to update the SAP R/3 HR database additional resources should be made available for communication effort – people, computers, faxes, etc.

- 78. The Accountant General announced to the Consultants and Pilot Team plans for designing and implementing a walk-up one-window pension service operation for employees working in Lahore only.

***Financial Analysis: a Tool to Determine Amounts of Missing Subscriptions***

79. The Pilot Program analyzed whether levels of accuracy could be assured while improving time efficiencies in correctly identifying amounts of missing subscriptions. The Consultants and the Pilot Team developed an overview of financial analysis based on three principals:
- a. Determine the correct amount. Correctly determining the amount of missing subscriptions utilizing the auto-populate tool. This is based on (i) updating the service history of the employee record; (ii) identifying from the SAP R/3 HR database the periods of missing subscriptions; (iii) through the auto-populate tool matching the period of subscription BPS grade to the mandated subscription rate.
  - b. Exclude in-eligible time periods. Identifying periods for which deductions should not have been and were not made of employees who elected an extra ordinary leave (EOL) that would be identified through the service history update, and excluding those periods from the calculation of the amount of missing subscriptions.
  - c. Identify and correct errors.
    - i. Identifying periods in which deductions should have been made but were not (identified through the creation of a DDO profile) and creating a separate list of employee records based on a cross-reference of the cost center and period of time for no deductions. For these employees, their subscriptions amount will need to be calculated and deducted and their employee record updated.
    - ii. Identifying periods for which deductions should have been made and were but for which the incorrect amount was deducted. This error will have to be further documented to identify the frequency and the amount between the correct subscription rate and the incorrect subscription rates.
80. Today, Departments compile and attest evidence of deductions for periods of missing subscriptions. This Report has extensively documented that the current process is inefficient and often carried out erroneously and requires searching and locating from Department records rooms that are poorly structured for accurate retrieval of specific documents. Most importantly this process will not result in an updated database of employee records.
- a. The length of time to complete this process for advances and final payments varies greatly from 1-6 months for about half of the requests and more than 1 year for the remaining half. The employee is inconvenienced and the Departments are asked to locate documents in records rooms in which the older paper-based documents are deteriorating or being destroyed due to the storage environment.



81. The Consultants and Pilot Team documented a protocol to increase the likelihood of identifying when deductions were not but should have been made.
- a. In collecting the service histories, an important requirement of a comprehensive conversion plan, a profile of each DDO should be prepared. As part of this profile, the data collectors should determine if there were any periods in which deductions were not made. This was the method used to identify the problem with DPO Kasur. This would allow the employee records for those employees to be verified manually and require the evidence of deduction. Employees that were employed in such DDOs would be identified by the cost center.
  - b. All missing subscriptions amounts that exceed a specific number of months would be randomly verified. Again, the example at DPO Kasur was 18 years of no deductions. Financial analysis provided to the Finance Department of amounts and periods of missing subscriptions would identify aberrations such as this. Again, these employee records would be manually verified and if necessary, evidence of deduction would be collected.
  - c. All missing subscriptions that exceed a specific amount would be manually verified. Financial analysis provided to the Finance Department would identify three types of aberrations: amounts that are not equal to mandated subscription rates; amounts that exceed a specific high end limit; and amounts of missing subscriptions that appear similarly for more than one employee of the same cost center.
  - d. The objective is to create financial analysis that can support the decision-making process rather than to apply virtually identical procedures regardless of the amount or effort needed to compile paper-based evidences of deductions.

### *Differences – Manually Collecting Evidence of Deduction or Auto-Populate Tool*

82. There are seven differences explained below between the process of manually collecting evidence of deductions for missing subscriptions and preparing financial analyses to determine if a comprehensive approach can be taken to bringing the GP Fund records up-to-date.

**Table 6 – Difference Between the Two Methods**

Title		
Key Differences	Process to Manually Collect Evidence of Whether AG / DAOs Properly Deducted Subscriptions From Payroll	Quantifiable Analysis to Correctly Identify Amounts of Missing Subscriptions
What is the process and how much time is needed to update 10,000 employee records	<p>Time needed for AG / DAOs to <i>notify</i> employees of missing subscriptions</p> <ul style="list-style-type: none"> <li>AG / DAOs estimated to need 1,000 person days</li> </ul> <p>Time needed to <i>compile</i> missing subscriptions for DDOs</p> <ul style="list-style-type: none"> <li>DDOs estimated to need 10,000 person days</li> </ul> <p>Time needed for validation of compiled evidences by AG / DAOs</p> <ul style="list-style-type: none"> <li>AG / DAOs estimated to need 2,500 person days</li> </ul> <p>Time needed for updating ledgers by AG / DAOs</p> <ul style="list-style-type: none"> <li>AG / DAOs estimated to need 1,125 person days</li> </ul> <p>Time needed for updating SAP R/3 HR database</p> <ul style="list-style-type: none"> <li>AG / DAOs estimated to need 1,125 person days</li> </ul> <p>Total time estimate – 15,000 person days with about 2/3 by the DDOs and 1/3 by the AG / DAOs</p>	<p>Time needed to update service histories</p> <ul style="list-style-type: none"> <li>Collect 10,000 service histories estimated at 1,000 person days</li> <li>Compile, punch and verify service histories estimated at 500 person days</li> <li>AG to upload records estimated at 100 person days</li> </ul> <p>Time needed to prepare financial analysis</p> <ul style="list-style-type: none"> <li>Compile financial data from SAP R/3 HR database<sup>16</sup> after uploaded employee records estimated at 20 person days</li> <li>Process auto-populate tool estimated at 20 person</li> <li>Provide financial analysis to PAT for evaluation estimated at 10 person days</li> </ul> <p>Total time estimate – 650 person days with about 500 by consultant team, 70 by DDOs and 85 by AG / DAOs</p>
What is the amount of time needed to validate advances and / or repayments?	<p>Manual process to identify and manually update on SAP R/3 HR database</p> <ul style="list-style-type: none"> <li>AG / DAOs estimated to need 30 days</li> </ul>	Same
What happens in cases when paper-based evidence is lost, deteriorated or destroyed?	Currently AG / DAOs will not permit crediting of missing subscriptions without evidence and as such these cases often are not updated. There is not a simple, process to address this problem.	This would apply only in a small percentage of cases in which the amount of missing subscriptions is larger and therefore would more often apply to a senior officer for whom there would be multiple options for evidence collection.
After 10,000 employee records are updated, what is their status?	<p>Missing subscriptions would be updated. No change in status to GP Fund data fields or service histories. If employee GP Fund records contained missing or incorrect data fields before collection evidence, status will be same after collection of evidence.</p> <ul style="list-style-type: none"> <li>Reports still cannot be issued to the Finance</li> </ul>	<p>Missing subscriptions would be updated. GP Fund data fields and service histories would be updated. Status would be 100% updated and correct employee records –</p> <ul style="list-style-type: none"> <li>Reports can be issued to the Finance Department on these</li> </ul>

<sup>16</sup> The first time to collect data from SAP R/3 HR database is estimated at 20 days but subsequent collections would be expected to require fewer days. Experience has shown that more than one attempt would be needed before the Office of the AG is able to correctly provide the defined data as they continue to gain familiarity with the database.

	<p>Department on these employee records.</p> <ul style="list-style-type: none"> <li>Data fields still cannot be provided to the Actuary</li> <li>GP Fund account balances should be able to be provided to the Actuary but the employee records will have to be disregarded if the data fields are incorrect</li> <li>CPS should be issued with correct GP Fund balance but the DoA and DoB will still be incorrect</li> </ul>	<p>employee records</p> <ul style="list-style-type: none"> <li>Data fields and GP Fund account balances can be provided to the Actuary</li> <li>CPS will be correctly issued</li> <li>GP Fund account balance is correct;</li> </ul>
Can commuted and monthly pension benefits be calculated using the Pension Module?	No, without service history updated the length of service cannot be auto-validated; need DoA, DoB	Yes, the Pension Module can process
Will incidence of fraud be identified?	Not sure	Yes, an audit can be conducted to identify whether incorrect salaries for BPS grade and other audits
Will process reduce or eliminate opportunities for soliciting or offering bribes	Manual process permits opportunities for soliciting or offering of bribes in the collection of evidence stage, not in processing GPF Module or Pension Module	Quantifiable analysis provides no opportunities for soliciting or offering bribes. There would be little collection of evidence – except for possibly a few senior officers –so it is unlikely.
Source: Consultant.		

83. Analysis is not used that could quantify the amount of missing subscriptions, the number of missing months and the extent of the effort required to collect paper-based evidence. Details of the analysis of subscriptions are included in Chapter V, Pilot Program Key Findings & Lessons Learned. Analysis prepared as part of this Pilot Program Report indicates that the Departments located evidence of deductions for 80 percent of the missing subscriptions. The average amount for which evidence was collected is less than Rs 50 per month / year of missing subscriptions. An opposite extreme was reported<sup>17</sup> that no subscriptions were deducted for 18 years for 25 employees.
84. An alternative process that would reduce the chance of mistakenly crediting subscriptions when no deductions occurred could be provided but would necessitate that the service histories be updated on the employee records and require support through financial analysis.

### ***Quantifiable Analysis Can Substitute for Reliance on Paper-Based Documents***

85. The assumption is that the employee will secure the evidence regardless of his capability to do so and without assessment of the amount of the missing subscriptions or the resources from the Departments to produce evidence. When asked for the rationale the explanation provided by the AAG, DAG

<sup>17</sup> This failure of deduction of mandated subscriptions was reported by the Pilot Team to the Accountant General who instructed the AAG and DAG Pension to open an inquiry. At the time of the presentation to the PAT on 31 October 2009, the AAG confirmed that no meeting had yet been made to the DAO Kasur (the office that would have failed to deduct the mandated subscriptions, if the attestation by the DPO Kasur is correct) or to the DPO Kasur (the originator of the identification of the period of no deductions of mandated subscriptions).

GPF and others is that they seek to ensure that an employee's GP Fund account is not credited for a subscription if the amount cannot be proven to have been deducted from the employee's salary as one way to reduce error or fraud. Avoidance of error and fraud is commendable, especially as the Consultants were told that past practices resulted in the AG / DAOs not consistently deducting subscriptions from an employee's salary. Again, the Consultants reinforce that the Departments are validating that the AG / DAOs have properly followed their own procedures. The Department is not validating that an employee has withheld his own deductions or the Departments have withheld the employee's deductions. This is a validation of transactions that the AG / DAOs is asking the Departments to make for transactions that AG / DAOs were obligated by regulation to process.

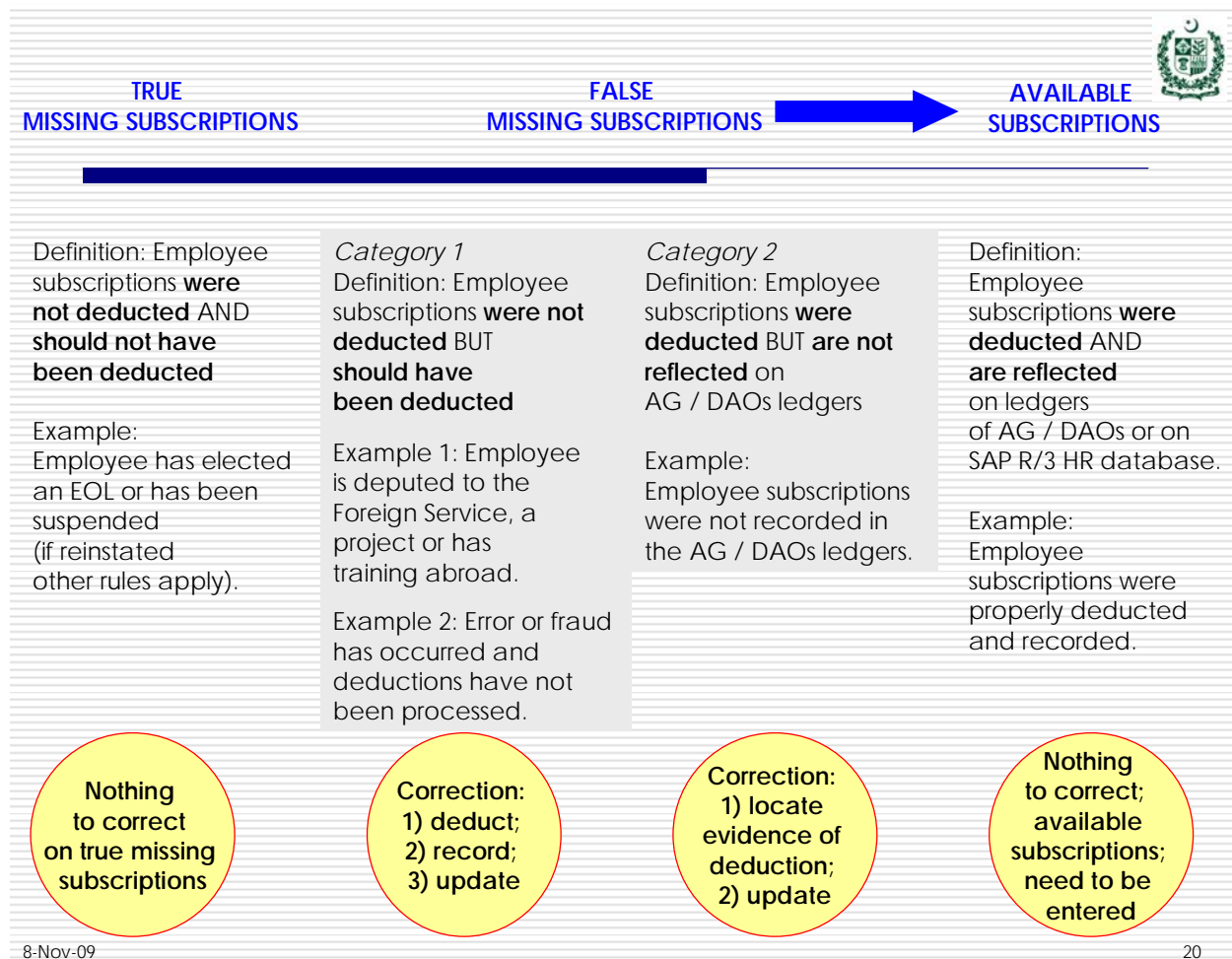
## CHAPTER VI – BACKGROUND DETAILS FOR REQUESTS FOR GP FUND ADVANCES AND FINAL PAYMENTS

86. The GP Fund is a notional defined contribution scheme to which regularized employees are mandated to subscribe.
- a. Mandated subscriptions are deducted through the SAP R/3 HR Payroll Module from an employee's pay. If the AG / DAOs pay an employee manually then subscriptions are deducted manually by the AG / DAOs.
  - b. Mandated subscription rates are standard within each BPS grade.
  - c. Notified interest rates are applied equally to all GP Fund accounts except for employees who, for religious reasons, may elect to opt-out of interest rates being applied to their GP Fund account.
87. There is no discretion as to whether an employee will subscribe or the AG / DAO will deduct subscriptions. If circumstances require that an employee not be paid through the SAP R/3 HR Payroll Module or the AG / DAOs, but later the employee returns to service then the time of mandated subscriptions must be manually deducted and proof of deductions provided to have his GP Fund account history updated. This last point is encountered often in updating employee GP Fund records.
88. When the SAP R/3 HR database became operational within the Office of the AG Punjab, there were approximately 700,000 existing employee records that needed to be converted. The decision was taken to establish the SAP R/3 HR Payroll Module for each of the existing employee records using the minimal data fields required to process the Payroll Module. At the time of this initial conversion there was no effort made to compile, punch, verify and upload the employee's past service history onto the HR database. There still is no plan by the Office of the AG to update the employee's service history. This lack of updated employee service history causes the employee record to be incorrect and therefore not useable to the Actuary.
89. Subscriptions also need to be updated from the employee's DoA through his date of commencement on SAP R/3 HR Payroll Module. Subscriptions are considered either available or missing. Missing subscriptions are further divided into three more parts with two types of false missing subscriptions that then must be updated to available subscriptions and a single true missing subscription category. It is this nuanced distinction that contributes to the difficulties of the Departments in collecting evidence of deductions and is contributing to processing delays.
- a. Available subscriptions – deductions that were valid and recorded on the ledgers in the AG / DAOs. A plan is underway for the AG / DAOs to update the available subscriptions onto SAP R/3 HR database – 34 percent of the employee records have been updated but several deadlines have been set, missed and revised deadlines set again.
  - b. Missing subscriptions – Departments compile from their records room evidence of deductions, attest, copy and send to the AG / DAOs for

updating the employee records. The category of missing subscriptions is actually multiple categories, as indicated below:

- i. False Missing Subscriptions that should have been and were deducted. The evidence of deduction is collected, attested, copied and sent to the AG / DAOs for updating employee records. This is a time consuming process subject to errors and lack of coordination between the Departments and AG / DAOs. The Consultants and Pilot Team viewed incidences in which this process dragged out for several months to several years to complete.
- ii. False Missing Subscriptions that should have been but were not deducted. In this case the Department cannot produce evidence of deduction – as the deduction indeed was not processed by the AG / DAOs. When the Departments become aware of such incidences, they are to notify the AG / DAOs for the subscriptions to be deducted and the employee records to be updated accordingly. There is a breakdown in this process and the Consultants note it is not working correctly.
- iii. True Missing Subscriptions that should not have been and were not deducted. This would apply in the case of an employee who has elected an EOL in which he receives no pay so there are no deductions.

**Figure 4 – Examples of Available Subscriptions & Missing Subscriptions**



### ***Employee Request for an Advance of Final Payment from his GPF Account***

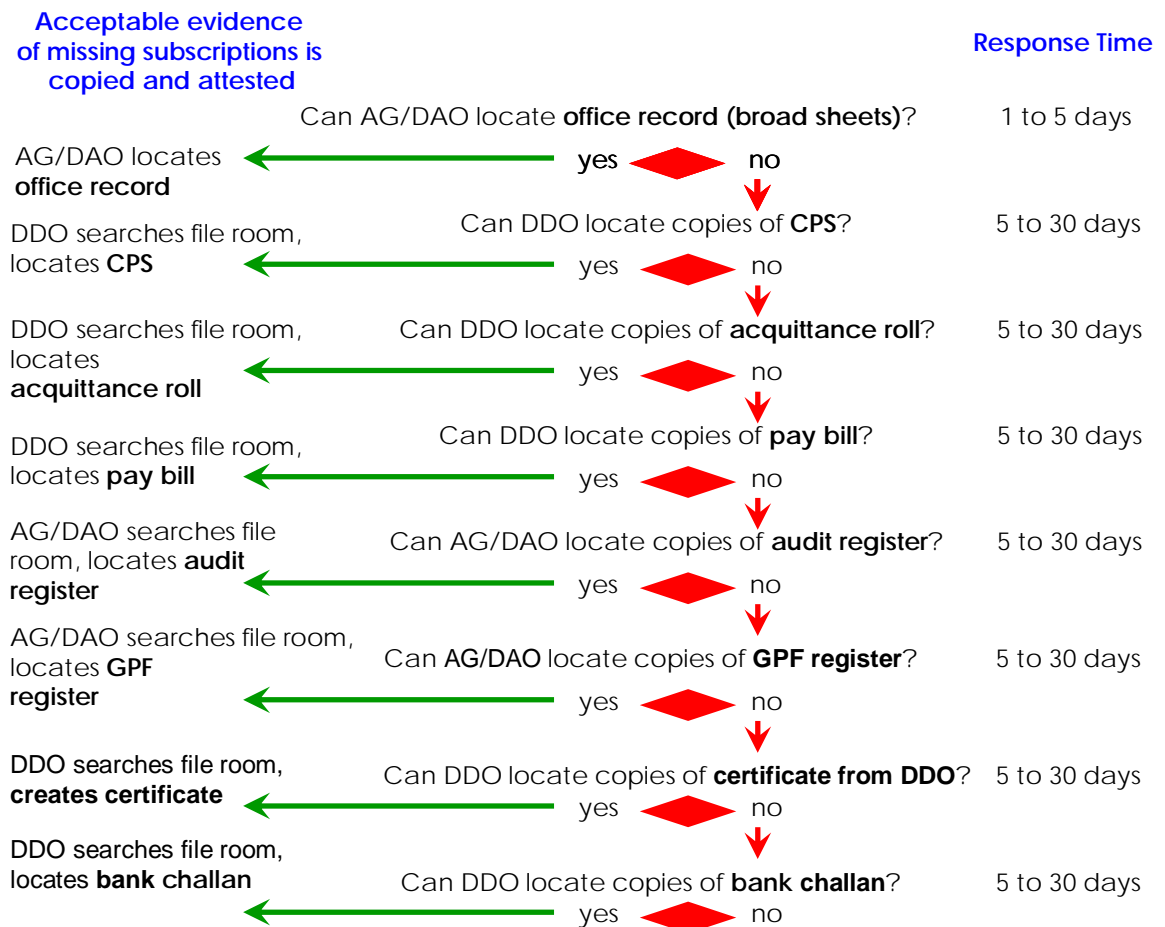
90. Employees request advances from their GP Fund accounts on a case-by-case basis and final payments at attainment of superannuation or completion of 25 years-of-service. The Departments and the AG / DAOs allocate resources to process these transactions but still the employee is required to manage his request through the system.
  - a. The AG / DAOs have not updated the employee records on the SAP R/3 HR database. At the time of requesting an advance or final payment, there is an almost 100 percent chance that the employee's record will not be updated. There is no AG / DAOs plan at present to comprehensively update the service histories of the employee records. There is an AG / DAOs plan to comprehensively update the employee records with available subscriptions but not update the missing subscriptions. The AG / DAOs have updated only 34 percent of the employee records with the available subscriptions from the ledgers.

- b. Departments are not provided access to query (read) employee records on the SAP R/3 HR database. Without knowing the status of the employee's GP Fund account (Are there missing subscriptions? Are data fields incorrect or missing?), the Department cannot tell the employee whether paper-based records must be compiled and sent to the AG / DAOs. The Department sends the employee to the AG / DAOs to learn this information.
- c. The employee goes to the office of the AG / DAOs to ask whether he has missing subscriptions and missing or incorrect data fields. Based on the findings of the Pilot Program there is an 86 percent chance that the data fields of the employee record will have to be updated. In some districts such as Kasur and Sheikhpura, the chance is 100 percent that the employee's record will need updating.
- d. The AG / DAO queries the SAP R/3 HR database, notes missing or incorrect information and verbally conveys to the employee the periods of missing subscriptions and the data fields that need to be corrected. The AG / DAO does not provide in writing this information. The AG / DAOs do not communicate this information to the Departments. The AG / DAOs send the employee back to the Department to have this information compiled.
- e. The employee returns to the Department and explains the information that the AG / DAOs have requested. The Departments do not have a protocol defining responses to employee requests, for example there is no pre-determined time such as 5 days later the employee can pick-up the requested information. Instead the employee reappears from time to time to see if his inquiry has been complied with. The Departments do not contact the employee when the information is compiled and ready for pick up. The interaction with the Departments and treatment by the Departments to the ADB Data Collectors who were part of the ADB Pilot Program clearly conveyed that part of the strategy is the hope that the employee will go away and stop pursuing his request.
- f. The Departments have difficulty locating and compiling evidence requested. Indeed, the Consultants and Pilot Team members were provided examples of employees who had been trying for 1-5 years to compile their evidence of missing subscriptions, two employees who retired in 10/2004 and 3/2005 who still could not obtain assistance from multiple Departments in multiple provinces in which they had previously worked. Their records rooms are little more than storage rooms and are not designed for accurate retrieval of documents. In cases when documents are successfully compiled, the Departments are not consistently aware of required procedures to attest and copy the documents. There appear to be no negative consequences when the Departments fail to produce correct documents, when they fail to follow prescribed protocols or when they fail to respond in a timely manner.



- g. Once the employee has collected the evidence of deductions and data fields, he returns to the AG / DAOs. If the information collected is correct, the AG / DAOs will follow three steps to update the GP Fund employee record:
  - i. Update the evidence of deductions of missing subscriptions into the ledgers;
  - ii. Update from the ledger to the SAP R/3 HR database;
  - iii. Update through a data change form any required data field changes, example DoA.
- h. Once the employee record has been updated, the AG / DAOs prepare the transaction for the advance or the final payment.
- i. This process takes between 1-6 months.

**Figure 5 – Collection of Evidence of Deductions**



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## APPENDIX A

### TERMS OF REFERENCE FOR THE ADB PUNJAB GENERAL PROVIDENT FUND PILOT PROGRAM & OFFICE OF THE ACCOUNTANT GENERAL

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# APPROVED ADB PUNJAB GPF PILOT PROGRAM

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## **Proposed ADB Punjab GPF Pilot Program**

1. The Asian Development Bank has proposed to provide Technical Assistance to create and implement a pilot program to study alternative methods of populating the monthly GPF subscription data for transfer to the SAP/R3 database. The objective of the proposed ADB Punjab GPF Pilot Program is to understand whether efficiencies can be achieved by employing new procedures that rely on automating some steps that are presently carried out manually.
2. The ability of the Punjab Finance Department to access the GPF data depends on adding monthly subscriptions to the SAP/R3 database for each employee. The number of monthly subscriptions to be added varies based on the date of appointment (beginning date) to the date on which the employee began to be paid through the automated payroll module (ending date). For some employees it is 12 monthly subscriptions for 25 plus years and others fewer than 12 subscriptions. At present the Finance Department has estimated the number of employee GPF records to be converted to be 742,217 and has indicated that thus far about 41, 000 employees GPF records have been converted.
3. At present this task has been assigned to the office of the Accountant General, through 35 DAOs offices including Lahore. These offices delegate the task of collecting the GPF monthly subscriptions for all employee records to several staff positions: Auditors, Assistant Account Officers and Account Officers who are supported by KPOs. Both groups of employees are assisting in the GPF data conversion efforts in addition to their other duties. Thus, the objectives to complete the GPF data conversion compete for resources – staff time and access to computers – along with many other priorities and tasks carried out by the offices of the DAOs. For this reason of competing for limited resources the Consultants recommend that the task be completed by a dedicated unit for whom this is their sole assignment. Accordingly, the GPF Pilot Program is designed using a dedicated team.
4. As a follow on to the December 2008 meeting with the office of the Controller General of Accounts, a meeting was convened of the four Accountant Generals, the Accountant General Revenues Pakistan (AGPR) and others include the Asian Development Bank and Consultants on 21 February 2009 in Islamabad. A copy of the handouts at that meeting are attached as Attachment 1.
5. The proposed GPF Pilot Program summary is divided into two parts. Part I describes the pilot program and Part II provides details of the proposed GPF team, pilot project procedures and proformas.

## *Part I - GPF Data Conversion*

6. The Asian Development Bank proposes to provide Technical Assistance to support the design, implementation and evaluation of a GPF Pilot Program to assist multiple stakeholders who support the Punjab GPF data conversion process or utilize the converted data. The stakeholders include:
  - a. Punjab Finance Department
  - b. Accountant General Punjab
  - c. Controller General of Accounts
  - d. PIFRA
7. The GPF Pilot Program aims to determine whether viable improvements can be introduced that would accelerate the completion of the GPF data conversion, by comparing the results of three methods of compiling and transferring GPF records to the SAP/R3 database of the same 1,000 employees, as a basis on which an evaluation can be made by the relevant stakeholders to better understand the impact of instituting improvements to the data conversion process. The GPF pilot team will prepare written procedures of the tested GPF data conversion enhancements.
8. Three methods of populating the GPF subscription fields with correct data would be:
  - a. Present method of manually compiling monthly subscriptions, identifying missing records, separately collecting missing records from the DDO where the records would be maintained by notifying the other DDO of credits needed and following up – if no response received within 20 days. Collected GPF data would be punched into excel spreadsheet from (photocopies of) source documents that may include registers / ledgers, pay bill records, acquittance rolls. The punched data would be printed and verified by another team member. The excel spreadsheets would be provided to the DAO for certification and transferred to the DAO.
  - b. Alternate method which would consist of automatically populating the GPF subscription fields<sup>11</sup> using the subscription amounts as determined by the Master Subscription / Allotment amounts notified by the Finance Department. Using the employee's date of appointment and basic pay scale number and basic pay scale stage as the initial information, a program would be developed as part of this pilot program to automatically input the GPF credits through the date the employee commenced automatic payroll. The pilot team would conduct a manual review to determine if the employee received an advancement / loan and, if so, data would be punched from a photocopy of the information.
  - c. Mixed method which would consist of manually compiling subscriptions and punching data as described above in present method. If missing records are notated, then automatically populate the GPF subscription fields but only for the missing records. The pilot team would conduct a manual review to determine if the employee received an advancement / loan and, if so, data would be punched from a photocopy of the information.

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<sup>11</sup> The process to automatically populate the GPF subscription amounts would be developed prior to the commencement of this pilot by one of the Consultants. Such a process would be submitted for review and certification by the office of the Controller General of Accounts.

9. The Pilot Program would start by forming a project team to test three different methods of effecting the conversion of GPF records on the same group of Punjab employees.
  - a. The team would be comprised of a team leader, six to eight team members who would work solely on data collection, three key-punch operators (KPOs) whose sole function would be to punch GPF subscriptions / allocations into formatted GPF excel spreadsheets and two office support assistants. A description of the qualifications of the proposed team members are included in Part II of this summary.
  - b. The team would be assigned to work in one or two DAOs and would be provided office space, computers, photocopy machines, internet access and other supplies for an efficient office.
  - c. The team would complete the tasks described in Part II. Such tasks would be reviewed and finalized by the GPF pilot project team with assistance from the office of the Accountant General and the Finance Department.
  - d. The team would use a customized data entry environment for the punching of GPF records. The purpose of such a custom input would be to limit the number and likelihood of key punching errors. Formats defined by PIFRA as required for uploading would be built into the data entry function. For example the date fields would permit punching only as: DD.MM.YYYY and numeric fields would not accept alpha characters and vice versa.
10. Remaining tasks still to be finalized include:

	<b>Pilot Program Tasks</b>	<b>Assigned Group</b>
a.	Identify and secure agreement on which DAOs would be used for the pilot program. Consultants propose one DAO and two DDOs	Finance Department
b.	Develop written procedures for use by the GPF pilot team members by the ADB Consultants and the Pilot Team	ADB Consultants and Pilot Team
c.	Develop proformas for reporting of GPF data conversion progress using the same format as the Accountant General presently uses	ADB Consultants and Pilot Team
d.	Define and secure agreement on goals and objectives of testing alternatives to determine if streamlining alternatives can be implemented effectively	ADB Consultants and Finance Department
e.	Develop formal request to PIFRA to create Initial Collection Report described in Step 2: Collection of GPF Data	M. Kelly
f.	Develop Master Subscription / Allotment Table and have certified by the Finance Department	Hamdani
g.	Develop custom data input screen to punch GPF data	N. Whaind
h.	Develop process to transfer punched GPF data from pilot project team's excel spreadsheet to be directly uploaded into the GPF module following DAO verification	N. Whaind

11. The Asian Development Bank requests that the Accountant General's office designate a single officer to oversee the pilot program, provide assistance and technical guidance and to act as resource to answer questions. The Accountant General's designee will need to be of high enough stature to be able to take decisions, provide immediate and routine follow up as needed and to be knowledgeable of the process of SAP/R3 HR, payroll, pension and GPF modules.
12. The ADB and the Consultants would evaluate results from the GPF pilot program and make recommendations based on the findings. The recommendations would be provided to:
  - a. Punjab Finance Department
  - b. Accountant General Punjab
  - c. Controller General of Accounts
  - d. PIFRA
13. Following the results learned from the ADB Punjab GPF Pilot Program the development of a specific strategy for the Punjab Accountant General addressing the current limitations and lack of coordination outlined in the section above should be undertaken. The strategy would:
  - a. Define the conversion goal, objectives and tasks from beginning to end for GPF;
  - b. Define specific progress measurements starting from baseline numbers referenced earlier in this report and explain who will measure the progress reports (e.g., Accountant General, SAP CC);
  - c. Define which tasks are necessary in which order and who will perform each task including use of forms, source documents, computers, internet connections, etc. In this manner, a decision will have to be taken whether partial or full GPF records will be converted<sup>12</sup> for each active employee;
  - d. Describe integrating quality control standards of accuracy into the conversion process and explain who will perform which quality control tasks and how the accuracy levels of the work undertaken will be reported and disseminated;

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<sup>12</sup> Other parts of this Report reference whether the conversion of GPF records will comprise compiling and punching the immediate accessible contribution / allocation GPF data or whether all missing information will be first collected. The first option will permit more GPF records to be converted but recognizes that the majority of them (more than 50 percent) have some missing GPF records. The second option will take considerably more time for the GPF records to be converted but, if managed correctly, could result in closer to 90 percent of conversions with GPF records completed. This strategy should be discussed and the advantages and disadvantages of each option highlighted. The Consultant has requested of PIFRA that following the first option would require that special report capabilities be provided to allow the Accountant General Sindh office to generate custom reports for identifying which employees are missing partial GPF records and to be able to indicate when a missing record is missing for valid reason. Initially, the PIFRA management considered that such report capability exists but researching into more details they explained to the Consultant and the Actuary that the capability does not currently exist. All agreed, however, that the PIFRA system is robust and carries the data needed for the report; it just a matter of this report capability becoming a priority to the Auditor General and Controller General of Accounts.

- e. Explain how staff will be trained - when the training will occur, who will prepare the training materials, who will conduct the training, where the training will be conducted;
  - f. Prepare a budget that outlines the costs for the team who will complete the task;
  - g. Prepare a communication plan to describe to the people who will be involved in the conversion as well as other stakeholders how the plan will be carried out, major milestones will be defined and measured;
  - h. Estimate a timeline based on the actual length of time required to verify and compile GPF records. Once the timeline has been estimated, develop a workplan that reflects the amount of staff and staff requirements to complete the tasks.
  - i. Analyze the appropriate size of a dedicated team to work on the tasks proposed. Such analysis would be used to propose the staffing of the conversion team. The staffing plan should include target goals GPF records by district office based on the number of records to be converted.
14. There are advantages and disadvantages to proposing a dedicated team to complete the GPF conversions. Ultimately the decision should be driven by whether the Auditor General, Controller General of Accounts, and the Punjab Accountant General regards that a team formed and dedicated to a single purpose will succeed more quickly and produce more accurate results than over the current process and resource allocation in place.
- a. Advantages.
    - i) More quickly trained. The training of a dedicated team can be more quickly accomplished than organizing training for various employees who occasionally work on the conversions but for which other tasks are their primary responsibilities.
    - ii) Greater results realized over shorter time period. Team members working solely on conversion should be able to achieve efficiencies though repeating the same tasks daily than employees who only occasionally complete the tasks. Also, there can be expected fewer disruptions often associated when employees have to pick up and put down work caused by the interruptions and demands of their “regular” work.
    - iii) The changing nature of procedures can be more easily and effectively communicated to and integrated by a smaller group. As discussions earlier this week indicate, there is a need to alter procedures often as new information is provided (example, the information learned when the initial batch of pensioner records was uploaded and the Siemens comments were received).
  - b. Disadvantages.
    - i) Ability to hire appropriate team members and to compensate them effectively. It is not clear if it would be possible to hire team members for a two to three year period to complete the conversion tasks. It is also not clear if the Accountant General would be able to compensate such team members adequately or in the manner that would be most appropriate to the tasks proposed (example, base compensation plus an additional sum



of high enough value to act as an incentive to produce the greatest number of completed conversions).

- ii) Budget constraints. Based on the structure finally determined, budget costs may include personnel and also reimbursement of expenses to travel from one district to another.

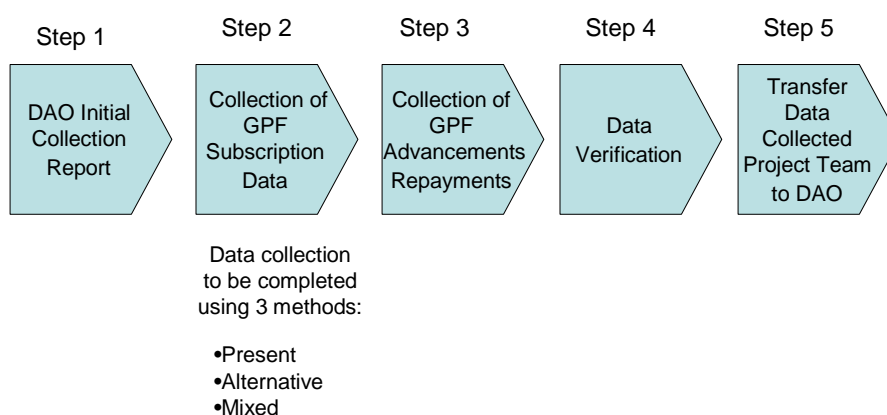
## Part II – GPF Team and Procedures

15. The GPF project team would be comprised of the following:

Project Team	Profile / qualifications	Technical skills
Team Leader	College or university graduate; understanding of GPF recordkeeping and PIFRA modules highly desired; Knowledge of procedures for calculating the GPF account balance.	Familiarity with email and word and excel. Ability to manage a team. Strong communication skills.
Data Collector	College or university graduate.	Familiarity with email and Excel spreadsheets and Word.
KPOs	Ability to type 65 words per minute, familiarity with data punching into excel spreadsheets.	Typing
Office staff	Ability to answer telephones, make appointments, type, email, word, photocopy, fax.	Strong working knowledge of word, excel, email and basic office equipment

16. Proposed tasks are outlined as follows:

### ADB Punjab GPF Pilot Program



Throughout the ADB Punjab GPF Pilot Program monthly reports would be prepared by the Project Team.

## **Step 1 – DAO Initial Collection Report**

The DAO will provide to the GPF project team data on the employees being paid by active payroll of a single DDO. A proforma is attached as Attachment 2, DAO Initial Collection Report (ICR) – this is a new report<sup>13</sup>. The ICR will be provided to the GPF project team in hard copy certified by the DAO and in soft copy (excel spreadsheet).

The ICR will provide the list of all employees for a single DDO for whom the GPF records are being collected.

The GPF project team will transfer the information of the DAO generated ICR to its GPF master file.

Action required: Create proforma for the Initial Collection Report; create GPF master file.

Assistance required: PIFRA, FABS, GPF team leader, International Consultant, Domestic Consultant

Approval of proformas by Accountant General Punjab.

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<sup>13</sup> The Initial Collection Report is proposed as a new report. The Consultant will request this from the PIFRA project through the Controller General of Accounts.

## **Step 2 – Collection of GPF Data**

The GPF project team will collect the GPF subscriptions / allotments of each employee referenced on the ICR. The process of collecting the data would be to use any of the following original source documents as may be needed: registers / ledgers, pay bill records, acquittance rolls.

The GPF project team will collect data for employee commencing with the date of appointment and ending with the date of automated payroll (at which time the GPF records would have been automatically calculated by the SAP/R3 payroll module).

The GPF project team will photocopy the relevant records, have the copies certified and bring them to the project office for punching by the KPOs into a GPF formatted excel spreadsheet.

The punched records will be printed for each employee and verified by a project team member.

For employees who have missing records of subscriptions / allotments, the time period of the missing records will be input.

Three methods of completing the missing records will be carried for each employee for purposes of testing the accuracy and measuring the time resource requirements of each method.

**Present Method.** The GPF project team will obtain from the employee or the DDO an indication of which DDO / location the employee was working in during the period of time of the missing records. The project team will notify the other DDO of a request for missing records. Follow up will be made for DDO requests not complied to within 20 days. The project team will monitor all missing records, notifications issued and responses received to evaluate the response times.

**Alternative Method.** Using two tables that contain subscriptions / allotments mandated and the number of stages (or levels) between 1986 to present for each basic pay scale (BPS) grade, the missing credits would be added to the employee's record. A proforma is Attachment 3, Master Subscription / Allotment Table and Attachment 4, Number of Basic Pay Scale Stages.

**Mixed Method:** Using the present method except in the case of missing records and then using the two tables to populate the monthly subscription data.

**Action required:** Develop the GPF formatted excel spreadsheet and the Master Subscription / Allotment Table, and create process to generate notifications of missing records and their follow up.

**Assistance required:** Accountant General Punjab, GPF team leader, two International Consultants, Domestic Consultant;

**Approval of proformas and verification of GPF subscriptions / allotments by the Accountant General Punjab.**

### **Step 3 – Collection of Data of Advances / Loans from GPF Accounts and Repayments**

The GPF project team will validate advances / loans from each employee's GPF account using the registers / ledgers, pay bill records, acquittance rolls, cash book and gazetted audit register of the DAO.

The GPF project team will verify for those employees for whom there is an advancement / loan to indicate whether the loan was repaid. Sources for repayment include: registers / ledgers, pay bill records, acquittance rolls or computerized pay slip.

If there are loan repayments, the GPF project team will photocopy the records for punching by the KPOs into a GPF formatted excel spreadsheet.

The punched records will be printed for each employee and verified by a project team member.

Assistance required: GPF team leader, International Consultant, Domestic Consultant

Approval of proformas by Accountant General Punjab.

### **Step 4 – Data Verification**

The GPF project team will print the original ICR and the new totals of punched data by employee and provide to the DAO for verification against the attested photocopies of the original documents and certification.

The DAO will certify the correctness of the GPF data collection of the GPF project team.

### **Step 5 – Transfer of Collected, Verified, Punched GPF Data from Project Team to DAO**

The GPF project team will turn over to the DAO the punched data in excel spreadsheets on CDs for data transfer and all other information on hard copy. The specific intent would be to avoid the DAOs from manually having to repeat key punch the same data again.

### **Step 6 – Monthly Reports**

The GPF project team will document its progress starting with the ICR, collected GPF data, collected advancement / loan data, punched data, verified data and totals turned over to the DAO for uploading.

The DAO will document the receipt of the GPF data from the project team and uploading of the GPF data onto the SAP/R3 from the CD with the excel spreadsheets.

**Attachment 1 – DAO Initial Collection Report**

**FOR EACH EMPLOYEE ON AUTOMATED PAYROLL**

- 1 Employee's Name
- 2 Father's Name
- 3 CNIC
- 4 Designation – post of employee
- 5 Current Basic Pay Scale Number
- 6 Current Basic Pay Scale Stage
- 7 Computerized Pay Slip Number
- 8 Employee GPF number – validate whether active or nil
- 9 Date of appointment (DoA)
- 10 Date of commencement of automated payroll for employee

**Attachment 2 - Master Subscription / Allotment Table**

<b>BPS</b>	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<b>1</b>																							
<b>2</b>																							
<b>3</b>																							
<b>4</b>																							
<b>5</b>																							
<b>6</b>																							
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Source: Punjab Finance Department. March 2009.

**Attachment 3 - Number of Basic Pay Scale Stages (or Levels)**

<b>BPS</b>	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1																							
2																							
3																							
4																							
5																							
6																							
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Source: Punjab Finance Department. March 2009.



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## APPENDIX B

CONSULTANT PRESENTATION TO THE PUNJAB  
PENSION ADMINISTRATION TASKFORCE, 31  
OCTOBER 2009 AND CASE STUDY: KASUR

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# ADB Punjab General Provident Fund Pilot Program

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## Report, Evaluation and Recommendations

PGEIP: ADB TA – 7003 (PAK)

*Presentation to the Pension Administration Taskforce*

Martha Kelly

Director Pension Practice, The Aries Group, Ltd.

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Riaz Ahmad Raisani

Team Leader, ADB Punjab GP Fund Pilot Program

Mahboobul Haq Hamdani

ADB Coordinator



ADB TA-7003 (PAK): Punjab Government Efficiency Improvement Program

31 October 2009





# Agenda

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- Current scenario
- Current conversion plan
- Creation of Pilot Program
- Delays processing GP Fund requests
- Pilot Program Findings
- Auto-Populate Tool
- Next steps

# Current Scenario <sup>1</sup>

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- Finance Department is not provided accurate GPF current expenditures or forecast of future costs
  - Planning and budgeting decisions based on incorrect information
  - Cannot develop plan to manage long-term GPF liabilities
  - Limits ability to define investment strategy of GP Investment Fund from which to finance future GPF liabilities
- ADB Actuary cannot forecast for FD the GPF accrued liabilities
  - AG cannot provide GPF correct data fields & account balances to Actuary
- Employees experience lengthy delays when requesting GPF advances and final payments
- Issues driven by same problem
  - Employee records are not updated on SAP R/3 HR database



# Finance Department

- Receives & analyzes monthly FI reports from AG
- Receives from Actuary GPF expenditure forecasts
- Ensures GP Investment Fund can meet expenditures

## Investment Unit of Punjab Pension Fund & GP Investment Fund

- Analyzes GPF expenditure forecasts
- Develops for PGP Investment Fund:
  1. Investment objective
  2. Investment strategy
  3. Investment policy
- Manages investments to ensure FD meets future financing needs

## Actuary

- Analyzes employee data fields from AG
- Forecasts GPF expenditures for FD
- Defines GPF accrued liabilities for FD & AG

For Actuary: AG provides data fields from SAP R/3 HR database for each employee

- BPS grade
- DoB
- DoA
- Salary
- GPF balances

## Office of the AG / DAOs

- Maintains employee records
- Pays GP Fund advances & final payments
- Pays salaries
- Pays commuted & monthly pensions

Data File

SAP R/3 HR Database of Employee Records

Consists of 3 Modules:

- Payroll
- Pension
- GP Fund



# Importance of Quantifiable Analysis

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- Without quantifiable analysis
  - Difficulty defining extent of problem
  - Not sure if designing correct solution to problem
  - Unclear of resources needed to implement solution
  - Limited understanding of how to allocate resources for each part of solution
- With quantifiable analysis
  - Can evaluate options for solution with clear understanding of their impact and potential results on the problem
  - Can effectively allocate resources to produce desired results
  - Can measure and evaluate progress



# Lack of Quantifiable Analysis

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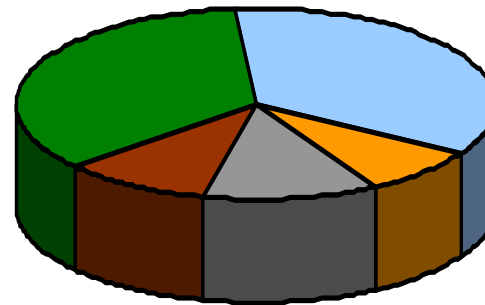
## Finance Department, AG / DAOs Departments

- Have not quantified
  - Which employee records are missing subscriptions
  - Number of months (length of time) of missing subscriptions
  - Value of missing subscriptions
- Can make assumptions – but it's not quantified
  - Probably lower value missing subscriptions for
    - Employees of lower BPS grades
      - Due to lower mandated subscription rates at lower BPS grades
    - Employees with older periods of missing subscriptions
      - Due to lower mandated subscription rates for all BPS grades in past

# Current Conversion Plan 1

**Current Conversion Effort does not address more than half of work to be completed**

Conversion Effort



■ SAP R/3 Payroll Module - 12%

■ Available subscriptions - 10%

■ Missing subscriptions - 35%

■ Employee service histories - 35%

■ Data fields - 8%

**Current Conversion Plan Addresses Only Partial Needs**

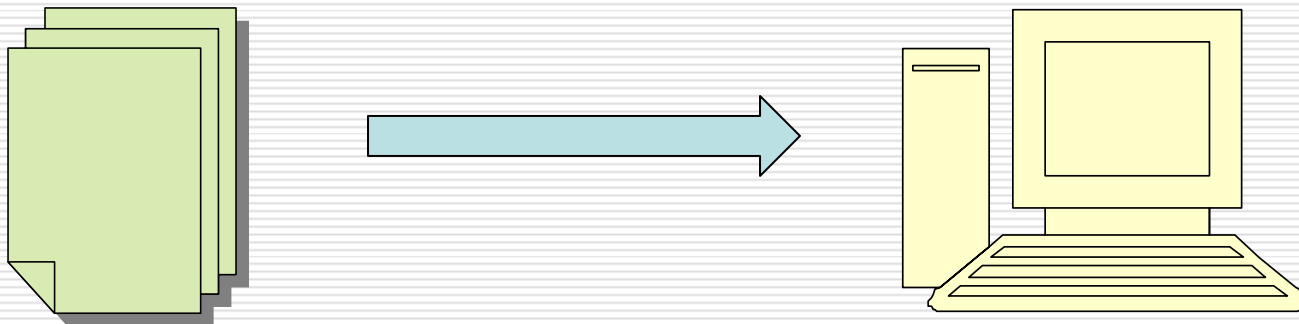
Current Conversion Plan Addresses Only Partial Needs	
SAP R/3 HR Payroll	Yes, partially – thru AG / DAOs and PIFRA, but not complete
Available subscriptions	Yes, partially – thru AG / DAOs, but not complete
Missing subscriptions	Yes, minimally – thru Dep't and AG / DAOs, but not complete only as single employee requests advance or final payment
Service histories	No
Data fields	No

Source: Interviews with AG / DAOs, Departments, PIFRA project in Islamabad, FABS.



# Current Conversion Plan <sup>2</sup>

- Employee service history records stored on paper-based documents primarily in Departments
- Available subscriptions are recorded on ledgers in AG / DAOs
- Conversion to SAP R/3 HR Payroll Module created initial SAP database records
  - Employee records with DoA before 4/2004 contain only minimum data fields required to process Payroll Module
    - All employee records require service history update
  - Employee records with DoA after 4/2004 contain payroll and full service history data fields



# Current Conversion Plan <sup>3</sup>

## Status Update

### Uploading Available Subscriptions

#### Total employees



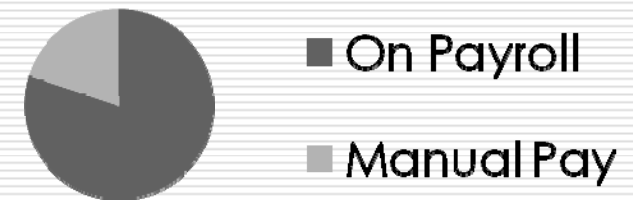
Total employee records 670,435 to be uploaded by AG / DAOs onto SAP R/3 HR database

- 34% uploaded
- 66% remaining

As at 30 Sep 2009, employee records with available subscriptions on ledgers to be updated onto SAP R/3 HR database.

### SAP R/3 HR Payroll Module

#### SAP Payroll position



Total employee records 670,435

- 80% SAP R/3 HR Payroll Module
- 20% Remaining taking Manual Pay

Estimate by DAG Computers of percentage of employees paid manually.

# Current Conversion Plan <sup>4</sup>



## Resource Allocation

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- Majority of resources probably are being used by
  - Departments
    - Used to locate one-off evidence of deductions in response to employee request for advance or final payment
  - AG / DAOs
    - Update available subscriptions from ledgers
    - Convert paper-based pension records onto excel files
  - PIFRA / SAP CC
    - Upload pension excel files onto SAP R/3 HR database
    - PIFRA incentive payments will discontinue after 12/2009
- Do not know if majority of resources are being allocated to target concerns

# Creation of Pilot Program

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- Gov't of Punjab
  - Identified serious problems caused by delays in processing GPF: advances and final payments
  - Created PAT
    - Chaired by SSF
    - Membership consists of FD, AG, DAO, PIFRA
  - Wants quantifiable analysis on problem
- ADB provided TA to understand how to
  - Generate quantifiable analysis for FD, AG / DAOs
  - Define causes of processing delays
  - Ensure correct delivery of GPF data needed by Actuary to forecast GPF accrued liabilities
  - Proposed ADB GPF Pilot Program

# Pilot Program Timeline



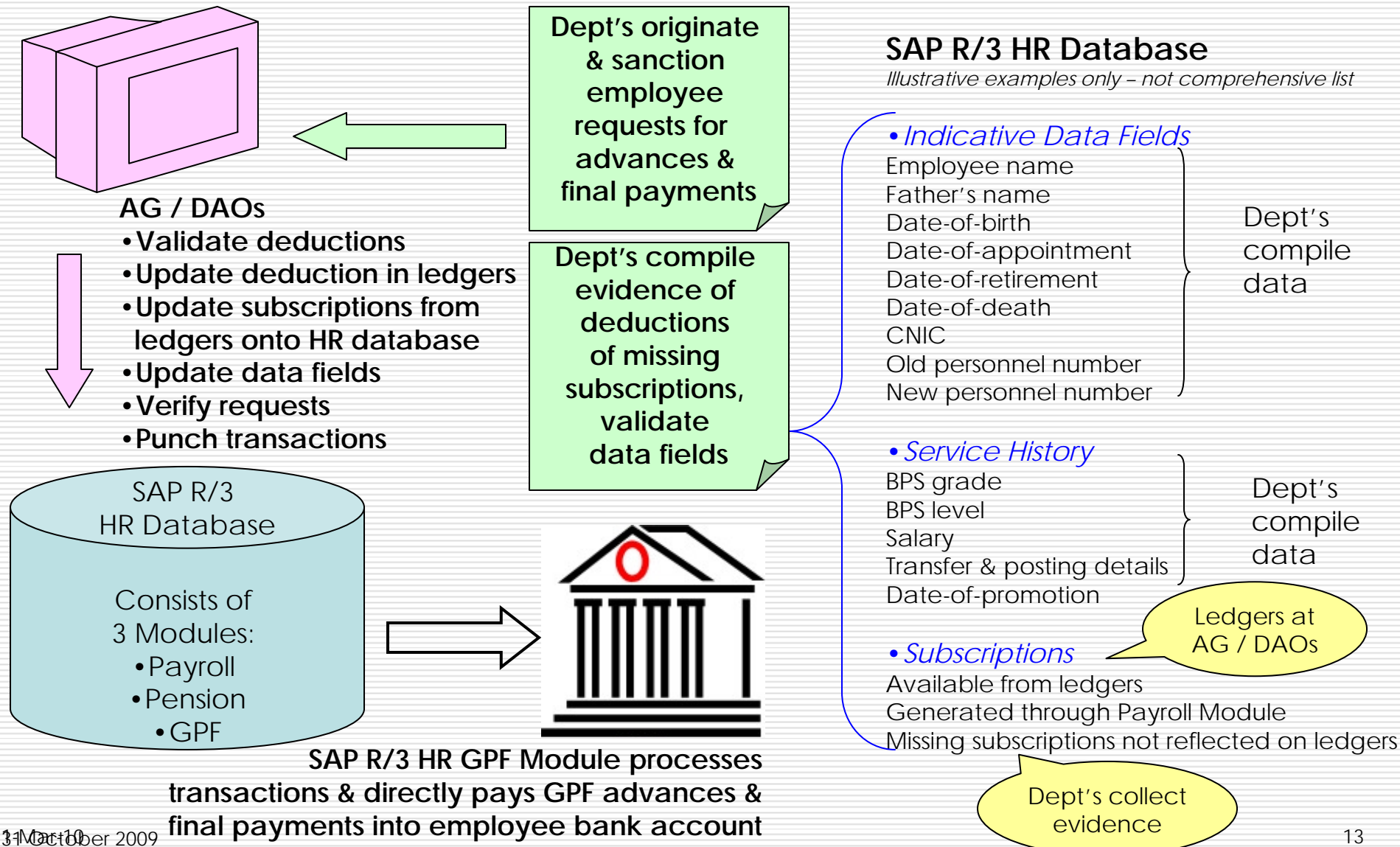
**Completion rate of updating available subscriptions by AG / DAOs of 670,435 employee records.**

ADB Pilot Program was originally 90 days. ADB suspended Pilot during Eid (17-27 Sep), extended conclusion date to 10 Oct. Total 105/calendar & 95/Pilot days.

# Why Are the Departments Involved?



Current Interaction Between Departments and SAP R/3 HR Database  
Departments Originate Requests for GPF advances and final payments



# Advance & Final Payment Requests



## Definition of Delays

Departments & AG / DAOs Processing Time for Advances & Final Payments			
Processing by	Half of Requests for Final Payments	Half of Requests for Final Payments	Most Requests for Advances
Departments	30 to 180 days	181 days to more than 1 year	30 to 180 days
AG / DAOs	7 to 15 days	7 to 15 days	7 to 15 days
<b>Source:</b> Consultant time estimates are based on interviews and review of transaction requests. No actual processing times were provided to Consultants.			

- Why does processing by Departments take so long?
  - Departments are collecting evidence that
    - AG / DAOs correctly deducted mandated subscriptions
    - Source of evidence varies – due to procedural changes over time and to differences in more readily locatable evidence
    - Each evidence of deduction - located, attested and copied
  - Collection process creates the delays experienced by employees



# Delays of Advances & Final Payments

## What is causing delays? 1

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- Department-originated requests often contain errors
  - Departments do not have access to SAP R/3 HR database records for their employees
  - Departments do not know
    - Available and correct subscriptions – do not need to take action
    - Missing subscriptions – need to collect evidence of deductions
    - Correct data fields – do not need to take action
    - Incorrect data fields – need to verify and provide correct information
- Departments are not consistently familiar with policies, rules and procedures for GPF





# Delays of Advances & Final Payments

## What is causing delays? 2

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- Efforts of Departments to collect evidence are complicated and filled with problems 1
  - Original documents are scattered
    - Evidence of deductions are located across multiple Departments, Districts, Provinces
    - Further scattered for gazetted officers between federal and provincial Departments
  - Confusion by Departments of what to collect
    - GPF Rules are complex, available evidence varies by case
    - Poor communication between Departments and AG / DAOs
    - Lack of agreed upon standard turn-around times between Departments and AG / DAOs
    - Inconsistently followed format for requests from AG / DAOs to Departments
    - Inconsistently followed format of responses of evidence from Departments to AG / DAOs



# Delays of Advances & Final Payments

## What is causing delays? 3

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- Efforts of Departments to collect ... continued
  - Department record rooms do not permit easy retrieval of evidence of deductions
    - Record rooms are little more than storage rooms for papers
      - Each holding 20, 30, 40 years of millions of accumulated papers
    - Record rooms are not organized for timely and accurate retrieval of specific documents
  - Procedures to collect evidence cannot be easily supervised or monitored
    - Majority of evidence of deduction requests do not follow simple action steps that can be checked by superiors
      - Many exceptions in GPF Rules
      - Half of DDOs process too few of too many variations to become proficient
    - No negative consequences when Departments do not comply with requests to collect evidence of deductions

# Define Service History

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- Service history consists of the following
  - Initial posting
  - Promotions
  - Transfers
  - Salaries, allowances and deductions
- This translates into the SAP R/3 HR database
  - Date-of-appointment
  - BPS and all changes in BPS
  - Designation and all changes in designation
  - Cost center and all changes in cost center

# Define Data Fields

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- Data fields consist of the following
  - Employee name
  - Father's name
  - Permanent address
  - Date-of-birth
  - CNIC
  - Old personnel number
  - New personnel number
- Most data fields are not intended to change
  - Exceptions to this rule
    - To make corrections
    - Employee's permanent address – this does change
    - Bank details – this does change



## TRUE MISSING SUBSCRIPTIONS

## FALSE MISSING SUBSCRIPTIONS



## AVAILABLE SUBSCRIPTIONS

Definition: Employee subscriptions **were not deducted** AND **should not have been deducted**

Example:  
Employee has elected an EOL or has been suspended (if reinstated other rules apply).

### *Category 1*

Definition: Employee subscriptions **were not deducted** BUT **should have been deducted**

Example 1: Employee is deputed to the Foreign Service, a project or has training abroad.

Example 2: Error or fraud has occurred and deductions have not been processed.

### *Category 2*

Definition: Employee subscriptions **were deducted** BUT **are not reflected** on AG / DAOs ledgers

Example:  
Employee subscriptions were not recorded in the AG / DAOs ledgers.

Definition: Employee subscriptions **were deducted** AND **are reflected** on ledgers of AG / DAOs or on SAP R/3 HR database.

Example:  
Employee subscriptions were properly deducted and recorded.

**Nothing to correct on true missing subscriptions**

**Correction:**  
1) deduct;  
2) record;  
3) update

**Correction:**  
1) locate evidence of deduction;  
2) update

**Nothing to correct; available subscriptions; need to be entered**



# Employee Records

## Problems with Subscriptions

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### Documented Problems

- Long delays occur waiting for Departments to collect evidence of deduction of missing subscriptions
- Continuation of manual payroll requires continuation of manual deduction of subscriptions – continuing to create new monthly missing subscriptions that must be converted to SAP R/3 HR database; also creates opportunities for fraud by not deducting subscriptions
- Deductions processed through SAP R/3 Payroll Module sometimes do not appear as subscriptions on employee records
- Collecting evidence of deductions generally follows single process
  - Actually there are multi-categories of missing subscriptions and each needs its own procedures (previous page)
  - Applying single procedures will not produce results – this is confusing Departments and AG / DAOs

### Proposals to PAT

- Update all employee records. Eliminate the need for Departments to continue to collect evidence of deductions as each request for advance or final payment is processed
- Discontinue cycle of creating new missing subscriptions that must be converted onto SAP R/3 HR database by ensuring compliance to 100% employees paid via SAP R/3 Payroll Module
- Coordinate with DAG GPF and PIFRA to understand problems of post 4/2004 subscription anomalies; develop recommendations for corrections; develop separate procedure to manually correct errors between 4/2004 and today

# Conversion of Employee Records

## Problems with Current Procedures

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### Problems

- Current procedure to collect evidence of deductions is time-consuming and has become unmanageable – huge effort expended to produce one-off updates of employee records
- Current procedures do not address special cases; so special cases are not being processed or are not processed correctly
- Serious problems have been identified but there is no single simple reporting mechanism to notify AG, FS and DCOs to ensure discontinuation and correction of errors

### Proposals to PAT

- Collection of evidence of deduction of missing subscriptions could be accelerated as part of comprehensive conversion plan
- Design / implement procedures where there are no documented procedures
- Design / implement procedures for requiring correction of errors when procedures are not followed



# Conversion of Employee Records

## Problems with AG / DAOs

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### Problems

- AG / DAOs are not paying 100% employees thru SAP R/3 HR Payroll Module – 20% employees still paid manually and make manual GPF deductions that then may create new missing subscriptions
- AG / DAOs experiencing delays in updating available subscriptions on SAP R/3 HR database
- AG / DAOs experiencing delays in processing data field changes
- AG / DAOs are not assigned to update service histories
- AG / DAOs inconsistently apply GPF policies and processing procedures – yet no negative consequences

### Proposals to PAT

- AG / DAOs implement 100% compliance with NAM requirement to make payroll ONLY thru SAP R/3 HR Payroll Module
- Need to collect service histories and data fields
- Propose new procedures to monitor the AG / DAOs that inconsistently apply GPF policies and correct the past errors





# Conversion of Employee Records

## Problems with Departments

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### Problems

- Departments have document storage rooms - not records retrieval rooms
- Departments often cannot (or will not) locate, compile and attest timely / accurate retrieval of evidence of deduction of missing subscriptions
- Departments sometimes
  - Locate evidence of deductions but compile evidence incorrectly
  - Locate evidence of deductions but fail to attest the evidence
  - Locate, compile, attest and send incorrect evidence
- Departments inconsistently apply GPF policies and processing procedures – yet no negative consequences
- Departments are not assigned to update service histories

### Proposals to PAT

- Eliminate reliance on Departmental record rooms



# Conversion of Employee Records

## Problems with Current Conversion Process

### Problems

- Current conversion plan is for
  - AG to convert
    - From manual pay to SAP R/3 HR Payroll Module - 80% done;
    - Available subscriptions from ledgers to SAP R/3 HR database, 34% done;
  - Departments to collect evidence of deductions of missing subscriptions and data fields only when advance or final payment is requested
  - There is no plan to update all missing subscriptions, service histories and data fields; this results in incomplete and incorrect employee records
- Current conversion steps are carried out in rushed manner
  - Demands for advances are for immediate access to money and generally processed ASAP; Departments are under pressure to collect evidence of deductions
  - Requests for final payments are initiated 6 months before superannuation; often still not enough to update SAP R/3 HR database

### Proposals to PAT

- Design / implement alternate procedures relating to evidence of deductions – only for use in controlled conversion environment
- Design / implement recommendations for new procedures where there are no documented procedures
- Propose to PAT new procedures for requiring correction of errors when procedures are not followed

# Analysis of Departments

- Pilot Team was provided 1,000 employee records
  - Generated from SAP R/3 HR database by AG / DAOs
  - Analyzed for correctness
    - Missing subscriptions
    - Data fields  
employee name, father's name, current designation, current BPS grade, current cost center, CNIC, DoB, DoA, missing period (starting - ending), total months of missing subscription

District	Total Employees	Pilot Employee Records / Percentage of Total Employees by DAO	Departments				
			Finance	S&GAD	Education	Police	Health
Lahore	99,365	500 / 2%	50	50	150	150	100
Sheikhupura	32,955	200 / 1.6%			100	50	50
Gujranwala	26,033	200 / 1.3%			100	50	50
Kasur	15,960	100 / 1.6%			50	25	25
<b>Total</b>	<b>174,313</b>	<b>1000 / 1.7%</b>	<b>50</b>	<b>50</b>	<b>400</b>	<b>275</b>	<b>225</b>

Source: Finance Department, Office of the AG.

# Analysis of Data Fields provided by AG / DAOs

- Pilot Team analyzed correctness of data fields
  - 86% of employee records have 1 or more data errors
  - 53% of employee records have 1 or more missing data fields
  - 500 employee records had incorrect cost center and had to be replaced on Pilot Program

Analysis of Data Fields							
Districts	Total Employee Records	Missing Data Fields		Percentage Employee Records	Incorrect Data Fields		Percentage Employee Records
		1	> 2		1	> 2	
Lahore	598	286	118	68%	204	247	75%
Gujranwala	204	89	2	45%	171	22	95%
Sheikhupura	191	47	2	26%	145	46	100%
Kasur	95	30	0	33%	93	2	100%
<i>Total</i>	<b>1,088</b>	<b>453</b>	<b>122</b>	<b>53%</b>	<b>614</b>	<b>317</b>	<b>86%</b>
Source: AG GPF and DAOs. Calculations by Pilot Team.							

# Analysis of Evidence Collected from Departments <sup>1</sup>



## Case study – Kasur

- 69 employee records – handout A, Kasur (4 pages)
- 1,550 missing subscription months
- Rs 42.3 average missing subscription month value
- DPO Kasur attested that no deductions occurred; DAO Kasur did not confirm / agree
  - No deductions for 25 employees for 18 years = up to 5,400 subscription

ADB Punjab GPF Pilot Program Kasur District					
Number Employees	Department	Total Missing Months	Total Subs In Manual Method	Total Subs In Productive Method	Total Subs In Auto Populating Method
19	Agriculture	179	8015	8015	8015
18	Education	282	14960	14960	14960
32	Health	1089	42640	42640	42640
69	Total	1550	65615	65615	65615

Source: DAO Kasur. Pilot Team calculations.

# Analysis of Evidence Collected from Departments 2



## Case study – Kasur

- Scattered records: various time periods at various locations
  - Kasur is not exception

Location of Records of Missing Subscriptions: Case Study Kasur	
Time period	Where records are stored
1968 to 1976	Stored at AG Lahore as DAO Kasur not started until 1976
1976 to 1989	Stored at DAO Kasur
1989 to 12/2006	Legacy system, records printed and pasted onto ledgers in DAO Kasur
1/2007 to current	SAP R/3 HR database
Source: DAO Kasur.	

# Analysis of Evidence Collected from Departments <sup>3</sup>

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## Case study – Kasur

- Allocation of resources to collect 1,550 months of missing subscriptions
  - 15 meetings in Kasur DDOs and DAO by Pilot Team
  - 12 letters from Pilot Team to DDOs and DAO
  - 30 person days by Departments: Health, Agriculture, Education
  - 75 days: Pilot Team (service history, work on collecting evidence)
- Is this the correct allocation of resources?



# Time Management

for collection of missing subscription evidences

This calculation is based on 15 to 20 employees of a DDO

S. No	Activity	Time required
1.	Getting list from SAP/R3	Two days
2.	Communicating list to department	Two days
3.	Verification of the SAP list by department	One day
4.	Meeting with DDO or concern accounts staff	Two days
5.	Collection of evidences	Two weeks
6.	Scrutiny of evidences as per rules	Three days
7.	Refining of evidences of missing subscriptions	Two days
8.	Punching into the excel sheets	One day
9.	Uploading on SAP/R3 database.	Three days
<b>Total time required for collection of evidences</b>		<b>30 days</b>



# Analysis of Evidence Collected from Departments 2



Employee Records: Collection Results by Department					
Department Responses		Evidence of Deductions	Notification of Destroyed Evidence	Notification of No Deductions	Depts Unable to Collect Evidence
Missing Subs Rules		Standard rules for Depts to collect evidence of deductions	Exception rules for Depts to collect evidence of deductions	Exception rules for Depts to collect evidence of deductions	Standard and exception rules for Depts to collect evidence of deductions
Missing Subscriptions: Employee Records / Months / Amounts					
Total	1,000	805	195		
Finance	50	41	0	0	9
S&GAD	50	43	0	0	7
Ed.	400	300	0	0	100
Police*	275	229	51**	25**	46
Health	225	192	0	0	33
Source: Consultants and ADB Pilot Team. Depts communicated they could not locate evidence of deductions for 195 records.					

\*For DAO Kasur only Police includes some Agriculture Department employees. \*\* Notifications of destroyed evidence (SP Telecom Lahore) and of periods of no deductions (DPO Kasur) were subtracted from total 1,000 employee records.

# Next Step

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- Distribute 805 evidences among AG / DAOs
  - 398 to AG Lahore
  - 173 to DAO Gujranwala
  - 160 to DAO Sheikhupura
  - 74 to DAO Kasur
- AG / DAOs will
  - Validate correctness of 805 evidence of deductions
  - Update ledgers with 805 evidence of deduction of missing subscription amounts
  - Update SAP R/3 HR database with 805 amounts of missing subscriptions from ledgers



# Analysis of Missing Subscription Period

## Evidence of Deduction Method

- Pilot Program analyzed only SAP R/3 HR database employee records that contained missing subscriptions
- Consultants often were told that a high number of records were missing a high number of subscriptions – but SAP R/3 HR database records do not support this
  - Half of records reflect <12 months missing subscriptions and one third missing > 85 or more are attributed to single DPO
- Difference could be due to unintentional anomaly created by
  - Focus of Pilot Program is on records of employees missing subscriptions whose DoA = 6/1968 - 4/2004;
  - Sampling process was not true random selection of SAP R/3 HR database, AG / DAOs selected sampling; or
  - Past explanations were based on estimates when actual tally of missing subscriptions indeed is different

Analysis of Missing Subscriptions		
Months of Missing Subscriptions	Employee Records	
	No.	Percentage
1-12	607	56%
13-36	233	21%
37-60	115	11%
61-84	56	5%
85 onwards	74	7%
<b>Total</b>	1085	100%
Source: AG / DAOs. Calculations by Pilot Team.		

## Auto-populate tool

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- Auto-populate tool
  - Designed as alternative to collecting evidence of deductions
    - Pilot Team tested to see if will help in creating quantifiable analysis
  - Relies on employee service history updated on SAP R/3 HR database
  - Purpose is to determine amount of missing subscriptions
    - Ability is to match period of missing subscriptions
      - Using employee DoA and all BPS grades
      - Correct mandated subscription rates for BPS grade for month / year of missing subscriptions
    - Would be combined with high reliability functions to
      - Identify correct periods of no deductions such as EOL
      - Identify erroneous periods of no deductions – such as deputation to foreign service, projects, autonomous bodies and more

# Analysis of Missing Subscriptions

## Auto-populate tool

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- Auto-populate tool relies on employee record
  - Updated service history with a validation of EOL
  - Determination by DAO and DDO of periods of no deductions for mandated subscriptions
  - Periods of missing subscriptions identified by SAP R/3 HR database
- Quantifiable analysis would provide to Finance Department
  - Amounts of missing subscriptions sorted by Department, by BPS grade
    - Totals, averages per month, hi and low amounts
    - Averages for separate periods of missing subscriptions, example if employee record has 3 separate periods of missing subscriptions
    - Sort by time periods, example: all time periods before 1978, between 1978 – 6/1986, after 6/1986
- Quantifiable analysis would exclude
  - Months / years of EOL
  - Periods of no deductions using cost center / time period analysis



# Analysis of Missing Subscriptions

## **Auto-populate tool**

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- Next steps for developing quantifiable analysis
  - FD should validate
    - Correctness of auto-populate tool
    - Correctness of mandated subscription rates
      - 1968 to 1978 – mandated subscription rates for BPS grades 1-22 average less Rs 1/ per month / per year
      - 1978 to 6/1986 – employee can elect amount above mandated subscription rates
      - 6/1986 to present – fixed mandated subscription rates
  - Consultants would submit auto-populate tool and mandated subscription rate information for FD validation

# Consultant Observations <sup>1</sup>

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- Current rules to validate missing subscriptions
  - ALWAYS collect evidence of deduction of subscription
    - But current rule CANNOT be applied 100% of time
      - Example: SP Telecom Lahore
  - ALWAYS deduct mandated subscription rates
    - But current rule IS NOT applied 100% of time
      - Example: DPO Kasur
- Current rules are not consistently applied

# Consultant Observations 2

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- Current conversion plan
  - Will not update all data fields and all subscriptions on SAP R/3 HR database for any one single employee record
  - Will partially update some data fields and all subscriptions for small percentage of employee records
- Current resource allocation
  - Do not know if resources are being directed to priority tasks
    - Probably not
  - Cannot tell if high amount missing subscriptions are getting priority effort of resources
    - Probably not
- Need to produce quantifiable analysis of all employee records on SAP R/3 HR database



# Next Steps

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- PAT decision making
  - Options to continue to conduct financial analysis
  - If decision is taken to have service histories collected, validated, punched into excel file then auto-populate tool can be used to quantify all subscription information
    - Only valid missing subscriptions would be converted to subscriptions (slide 20)
      - true missing subscriptions would not be included
    - Procedures could be developed to address other problems identified (slide 21-25)
  - What is value of addressing these?
    - Immediate impact by correcting records
    - Can be controlled through AG Punjab **OR** FD **OR** Both
    - Can allow for build on –
      - Start small, if successful then can build on
      - Can target by Department or by DAO or cross-cuts of both

Kasur District / Agriculture Department					
S.No	Employee Name	Missing Months	Total Subs In Manual Method	Total Subs In Productive Method	Total Subs In Auto Populate Method
1	Ass Muhammed	3	60	60	60
2	Hafiz Abdul malik	16	940	940	940
3	Anwar	31	1180	1180	1180
4	Asghar Ali Shah	4	120	120	120
5	Muhammad Aslam	28	1120	1120	1120
6	Muhammad hanif	8	400	400	400
7	Muhammad Iqbal Shah	3	90	90	90
8	Muhammad Ishaq	12	360	360	360
9	Muhammad Latif	12	240	240	240
10	Abdul Majeed	3	60	60	60
11	M. Manzoor ul Hassan	27	1100	1100	1100
12	Muhammad Ilyas	3	120	120	120
13	Muhammad Latif	3	150	150	150
14	Muhammad Mustaq	3	150	150	150
15	Rehmat Ali	9	885	885	885
16	Muhammad Shafi	4	80	80	80
17	Muhammad Sadique	3	270	270	270
18	Muhammad Umer	5	650	650	650
19	Muhammad Yaqoob	2	40	40	40
Total		179	8015	8015	8015

Kasur District / Education Department					
S.No	Employee Name	Missing Months	Total Subs In Manual Method	Total Subs In Productive Method	Total Subs In Auto Populating Method
1	Muhammad Rasheed	1	30	30	30
2	Ghulam Qadir	37	720	720	720
3	Muhammad Iftikhar	3	150	150	150
4	Inyat Ali	12	300	300	300
5	Khursheed	48	2920	2920	2920
6	Liquat Ali	4	80	80	80
7	Muhammad Ashraf	14	700	700	700
8	Muhammad Nawaz	3	180	180	180
9	Muhammad Tufail	2	60	60	60
10	Muhammad Sadique	8	200	200	200
11	Muhammad Rafique	7	395	395	395
12	Muhammad Shafique	5	150	150	150
13	Muhammad Sadiq	2	40	40	40
14	Muhammad Sajjad	71	6410	6410	6410
15	Abdul Shakoor	12	245	245	245
16	Shoket Ali	36	1080	1080	1080
17	Suriya	12	300	300	300
18	Yasmeen	5	1000	1000	1000
Total		282	14960	14960	14960

Kasur District / Health Department					
S.No	Employee Name	Missing Months	Total Subs In Manual Method	Total Subs In Productive Method	Total Subs In Auto Populating Method
1	Muhammad Affaq Ala	48	3000	3000	3000
2	Abdul Jabbar	36	1080	1080	1080
3	Allah Ditta	18	360	360	360
4	Anjum Latif	12	600	600	600
5	Muhammad Arif	24	720	720	720
6	Ashraf Joya	12	600	600	600
7	Asif uz Zaman	31	5285	5285	5285
8	Barakullah	36	1080	1080	1080
9	Faqir Muhammad	36	1080	1080	1080
10	Ghulam yaseen	12	600	600	600
11	Muhammad Ismail	12	600	600	600
12	Muhammad Abbas	84	2705	2705	2705
13	Abdul Razaq	12	1140	1140	1140
14	Muhammad Akbar	95	6025	6025	6025
15	Muhammad Ramzan	36	845	845	845
16	Muhammad Umer	36	720	720	720
17	Muhammad Yahya	30	360	360	360
18	Muhammad Yaseen	36	1080	1080	1080
19	Muhammad Yousaf	12	325	325	325
20	Muhammad Nawaz	36	1080	1080	1080
21	Nazakat Ali	24	720	720	720
22	Noor Muhammad	12	360	360	360
23	Qudratullah	24	720	720	720
24	Muhammad Rafique	36	1080	1080	1080
25	Riasat Ali	36	1080	1080	1080
26	Saleem Raza	36	1080	1080	1080
27	Abdul Sami	36	1080	1080	1080
28	Sharafat Ali	12	600	600	600
29	Muhammad Sulaman	84	1460	1460	1460
30	Tahir Hafeez	63	3015	3015	3015
31	Ghulam Yahya	36	1080	1080	1080
32	Zulfiqar	36	1080	1080	1080
Total		1089	42640	42640	42640

Kasur District					
S.No	Department	Total Missing Months	Total Subs In Manual Method	Total Subs In Productive Method	Total Subs In Auto Populating Method
1	Agriculture	179	8015	8015	8015
2	Education	282	14960	14960	14960
3	Health	1089	42640	42640	42640
Total		1550	65615	65615	65615

Average missing subscription month value = Rs 42.3

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## APPENDIX C

AGREEMENT TO GP FUND PILOT FROM AG  
PUNJAB TO ADB AND FINANCE DEPARTMENT

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**Office of the  
Controller General Accounts  
Islamabad**

No. --Comp-I/2-3/2008

June 15, 2009

Mr. Muhammad Shafi  
Accountant General  
Punjab, Lahore

**Subject: PUNJAB PROVIDENT FUND PILOT PROJECT ON MISSING  
CREDITS BY ASIAN DEVELOPMENT BANK**

Kindly refer to your office letter No. Fund-I/Coord/HM/98-102 dated 15.05.2009 on the subject cited above.

2. The Controller General Accounts has approved the proposal in principle, sent vide your above mentioned letter and has observed that the job though time consuming, does not involve intricacies. The main requirement is deployment of dedicated persons. The Controller General Accounts has further desired that the Pilot Project should be started immediately. The Accountant General Punjab should keep a close watch on it, besides, regular monitoring through the Director General (Accounts) of this Office on monthly basis.

3. It is, therefore, requested that you may kindly undertake this Pilot Project immediately and deploy dedicated persons to complete this assignment in coordination with ADB as early as possible. It is further requested that an update on the progress made during the month may also be sent to this office by 05<sup>th</sup> of the following month for information of the Controller General Accounts.

4. This is issued with the approval of the Controller General Accounts.

--sd--

**Hafiz Muhammad Islam**  
Director General (Accounts)

CC:

- Mr. Naveed Alauddin, Special Secretary, Finance Department, Government of Punjab, Lahore.
- Mr. Michel Van der Auwera, Social Security Specialist, Asian Development Bank. (mvanderawera@adb.org)
- Ms. Martha Kelly, Pension Specialist, Asian Development Bank. (mkelly@ariesgroup.com)
- Mr. Nasir Whaind, Actuary/ Financial Specialist-27-N, Samanabad, Lahore. (nazpk@brain.pk.net)

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## APPENDIX D

PRESENTATION FROM CONSULTANTS & PILOT  
TEAM TO AG PUNJAB AND ADB

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Presentation to the

## Accountant General Punjab & DAG – General Provident Fund

### Overview of the ADB Punjab General Provident Fund Pilot Program

by

Martha Kelly, ADB Consultant

29 June 2009



TA-7003 (PAK): Punjab Government Efficiency Improvement Program



## Agenda



- ☐ Review current status of GP Fund conversions
  - Statistics
- ☐ Conversion timeliness and data accuracy
- ☐ Pilot Objectives



TA-7003 (PAK): Punjab Government Efficiency Improvement Program

2



## GP Fund Records <sup>1</sup>



- Initial focus
  - Analysis of converting subscriptions and advances
- Next steps
  - ADB Punjab GP Fund Pilot Program
    - Pilot Program discussed at CGA meeting with provincial AGs Feb 2009
    - Initial TORs of Pilot Program prepared and approved by FD and office of AG
    - Delays in starting Pilot Program



TA-7003 (PAK): Punjab Government Efficiency Improvement Program

3



## GP Fund Subscriptions & Advances Completed Conversions <sup>1</sup>



- GP Fund records
  - 21% of subscriptions and advances punched from ledgers
    - Does not including missing subscriptions
  - Subscriptions are punched from ledgers
    - Missing subscriptions are evidenced by blanks and are not punched
  - Advances are punched from ledgers
    - Missing advances are not as easily evidenced and similarly are not punched

Upto Date	Total Employee Records	Total Punched onto SAP R/3	Remaining to be Converted on SAP R/3
2-2009	618,891	60,824	558,067
4-2009	702,669	76,585	626,084
5-2009	702,669	132,998	569,671



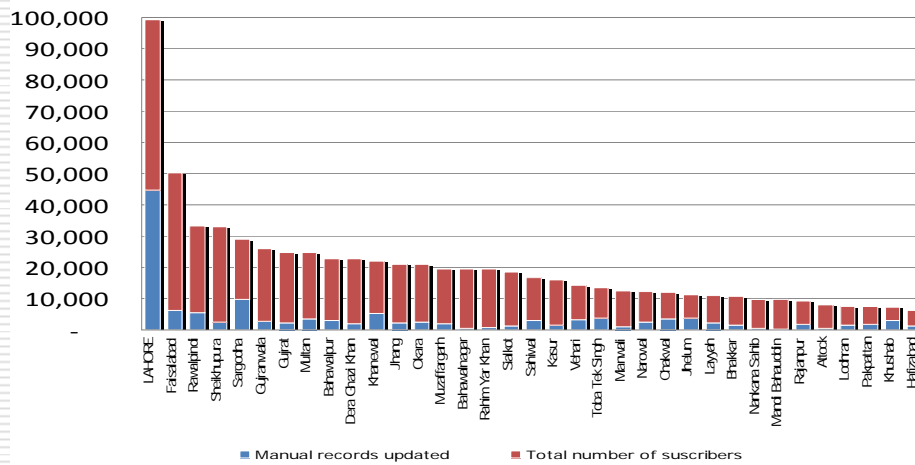
Source: AG Punjab, February, April and June 2009.

TA-7003 (PAK): Punjab Government Efficiency Improvement Program

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## GP Fund Subscriptions Completed Conversions <sup>2</sup>



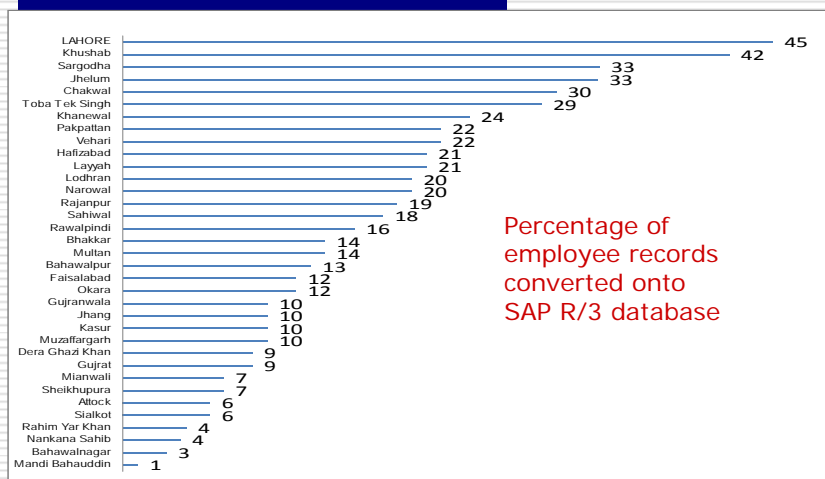
Source: AG Punjab, April 2009.

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## GP Fund Subscriptions Completed Conversions <sup>3</sup>



Percentage of  
employee records  
converted onto  
SAP R/3 database



Source: AG Punjab, April 2009.

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## GP Fund Records Accuracy & Anomalies <sub>1</sub>



**Significant**  
data errors  
are a problem.  
Current  
capabilities  
are not  
conducive  
to easy  
identification  
to target for  
correction

Summary of Data Analysis of General Provident Fund Module of Active Employees	
General Provident Fund Account Balances	Provincial Gov't file 85,075 records
	District Gov't file 25,658 records
	<b>Total Records 110,733</b>
Removed Records	(3,987) Duplicate Records
	No Name NIL Balance (1)
Net Total Records	Net Total records 106,745 available
Advances	Provincial Gov't file has 36,867 records
	District Gov't file has 13,818 records
	Total Records of Advances 50,685
Duplicates	(19,445) Duplicate Records removed
Useable Records	<b>Net Total records 31,240 available</b>



Source: Nauman Cheema, Actuary. 2009

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## GP Fund Records Accuracy & Anomalies <sub>2</sub>



Examples of  
data errors  
from HR and  
Payroll  
Modules.  
Anomalies in  
data restricts  
AG's ability to  
deliver credible  
data to FD to  
project future  
General  
Provident Fund  
Account  
Balances



Summary of Data Analysis of HR and Payroll Modules of Active Employees	
Data Anomalies	No. of Records
Basic Pay is missing	158
Basic Pay is less than Rs 2500 (compared to lowest basic pay in grade 1 is Rs 2475)	9,335
Date of Appointment is missing	245
Age at Appointment is less than 15	115
Date of Appointment is incorrect	122
Age at Appointment is greater than 45 years	500
Duplicate/Triplicate Employee Records	528
Age is greater than 60 years	272
Dates of Birth and Appointment are dummy (01/08/1984 & 01/01/2003)	6295
Date of Birth is dummy (01/08/1984)	247
Date of Appointment is dummy (01/01/2003)	18,674
Date of Appointment is equal to Date of Retirement	276
Total Discarded Data	<b>(36,767)</b>
Total Original Data	<b>96,536</b>
Clean Data	<b>59,769</b>



Source: Nauman Cheema, Actuary. 2009.

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## GP Fund Records Accuracy & Anomalies <sup>3</sup>



- ☐ Improve conversion timeliness and data accuracy
  - Test through Pilot Program whether there are options that would improve the speed of the conversions and increase data accuracy
  - Analyze current processes and procedures
  - Identify time consuming, labour intensive and error-prone tasks to see if they can be improved
    - ☐ Test tasks through ADB Pilot Plan
    - ☐ Recommend to PAT improvements if results of Pilot warrant changes



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## Pilot Objectives <sup>1</sup>



- ☐ Compare accuracy and timeliness
  - Current, manual method by AG / DAO
    - ☐ Entails punching subscriptions and advances from ledgers and skipping over missing subscriptions
    - ☐ AG and DAO punches data directly to GP Fund module
  - Alternative, second method
    - ☐ Entails testing effectiveness and accuracy of auto-populating missing subscriptions
    - ☐ Data is punched and auto-populated onto excel spreadsheet
  - Alternative, third method
    - ☐ Entails testing effectiveness and accuracy of auto-populating all subscriptions
    - ☐ Data is punched and auto-populated onto excel spreadsheet



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## Pilot Objectives <sup>2</sup>



- ☐ Conduct Pilot Program using 1,000 employee records
  - Employ three methods on same employee records
  - Compare results on several factors
    - ☐ GP Fund Account Balance
    - ☐ Total subscriptions, advances, repayments
    - ☐ Timing
    - ☐ Accuracy
- ☐ Pilot team does NOT punch data into SAP R/3
  - Only AG / DAOs are presently punching data to or accessing database information



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## Pilot Objectives <sup>3</sup>



- ☐ Pilot Program Phases
  - Preparatory – two weeks
    - ☐ Assess current procedures and use of records
    - ☐ Review assigned DAO, DDO
  - Workplan – two months
    - ☐ Carry-out Pilot work
    - ☐ Provide updates to FD and AG
    - ☐ Interact with DAO and DDO staff
  - Evaluation – two weeks
    - ☐ Prepare summary, analyze results, document work and findings, develop recommendations

Commencement: 29 June  
Conclusion: 26 September



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## Pilot Objectives <sup>4</sup>



### ☐ Provide to PAT and ADB

- Summary of the ADB Punjab Pilot Program
  - ☐ Reflect key findings
  - ☐ Define methodologies
  - ☐ Document procedures
  - ☐ Other information
- Evaluation of the Pilot results
- Recommendations



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## Pilot Objectives <sup>5</sup>



### ☐ AG Pilot Program Support

- AG has assigned dedicated support
  - ☐ Deputy AG Mrs. Iffat Farooq
- AG has provided office space for Pilot Team at AG office Lahore
- AG has agreed to support DAO and DDO to be used in Pilot



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## Pilot Support <sup>6</sup>



- ☐ ADB – technical assistance
  - ADB Consultants
  - ADB Domestic Coordinator
  - ADB Pilot Team
    - ☐ Team Leader
    - ☐ Six Team Members
    - ☐ Office Support Staff
- ☐ ADB – budget
  - Computers, printers, telecom and internet, office furniture, office supplies, transportation costs



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## GP Fund Records ADB Punjab GP Fund Pilot <sup>7</sup>



- ☐ Key Pilot Program issues to be finalized
  - Development and testing of program to auto-populate subscription capabilities
  - Map out details of Pilot workplan
    - ☐ Prepare assignments
    - ☐ Reach agreement on procedures to access SAP R/3 database
  - Interact with PIFRA on special reports
  - Selection of Pilot DAO and DDO



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## APPENDIX E

### PILOT PROGRAM TORs FOR AG PUNJAB

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**PUNJAB GOVERNMENT EFFICIENCY IMPROVEMENT PROGRAM (TA 7003-PAK)**

A TECHNICAL ASSISTANCE PROJECT FINANCED BY THE ASIAN DEVELOPMENT BANK



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**To:** Iffat Farooq, DAG  
Riaz Ahmed Raisani, ADB Pilot Team Leader

**Copy to:** Michiel Van der Auwera, ADB Social Security Specialist

**From:** Martha Kelly, ADB Pension Consultant

**Date:** 8 July 2009

**Subject:** Terms of Reference for the AG Punjab to Support the ADB Punjab General Provident Fund Pilot Program

1. This represents a revision to the Pilot Team assistance requested of the AG. We have now consolidated reports that were requested during our meeting at the office of the AAG 4 July 2009 into two SAP generated reports and we have clarified requests for non-SAP database information.
2. As previous documents have outlined, the Pilot Team will be working with 1,000 employee records. Based on recent discussions with the AG and Pilot Team, the functionality of the assigned employee records will include as many as possible of the following parameters:
  - a. Employee records maintained at PIFRA productive sites and for which the subscriptions and advances from the ledgers have already been compiled, punched and uploaded to the SAP database.
  - b. Employee records representing a cross-section of various groups:
    - i. Wide spectrum of BPS numbers and scale;
    - ii. Wide spectrum of employee ages (although we note that as the current conversion process being undertaken by the AG does not include date-of-birth validation that many ages may be incorrect) and years-of-service (again we note that as the date-of-appointment is not being validated currently many years-of-service may be incorrect); and
    - iii. Wide spectrum regional cross sections.

3. I have discussed the issue of whether to include multiple DAOs (Lahore and DAOs) separately with each of you and ask that an agreement be reached between Riaz and Madam Iffat on the employee record groups.
  - a. If the decision is taken to utilize a broad regional employee record base, then the AG is asked to generate the information below for Lahore and one or more DAOs.
  - b. If the decision is taken to restrict the regional base of employee records, then the AG is asked to generate the information below only for Lahore.
4. As Michiel Van der Auwera and I will be traveling in Sindh for the next week, please consult each other as this information is prepared.
5. The following information is requested by the office of the AG for purposes of preparing the initial phase of the Pilot and for selecting the employee record groups.
  - a. DDO information. This information will be used as part of the assessment to determine which employee records to include in the Pilot.
    - List of DDOs for Lahore (or for multiple DAOs if this is the decision taken regarding the regional base of employee records). Indicate which DDOs have started to compile and punch subscriptions and advances from ledgers and which have not.
  - b. Missing subscriptions. This is from the Consultant's Report: PAT & Data Conversion, April 2009.

DAO Missing GP Fund Monthly Subscriptions Report  
By Cost Center for each Employee

1. Employee's Name
  2. Date-of-Birth
  3. Date-of-Appointment
  4. CNIC
  5. Employee GP Fund Account Number
  6. Computerized Pay Slip Number
  7. Beginning period for missing monthly subscriptions
  8. Ending period for missing monthly subscriptions
- Steps 7 & 8 are to be repeated for each time period of missing records, if there is more than one

- c. Duplicate personal numbers / GP Fund account number. This information will be used to understand how extensive the duplication exists on the SAP database and to validate the reliability of the SAP database.
  - List of the duplicate GP Fund account numbers for Lahore (or multiple DAOs if this is the decision taken regarding employee records).
- d. Update status of SAP database. This information would be used if we need additional reports so that we may limit our requests to already formatted reports for simplification of report generation.
  - Define the standard and non-standard (query based) reports that are being generated from SAP today for active employees (not active pensioners).
- e. Documentation. Description of current process to upload subscriptions and advances and remedial measures, if any, adopted for problems faced. The initial report issued (not final report) would explain the current process. Please share with the Pilot Team other documents relating to the conversion process issued by AG office.
- f. Manual GP Fund records. Have any categorizations been made that describe the condition of the manual records such as department wise information on the ledgers. Are the ledgers continuing to be updated regularly with payroll, subscriptions and advances? Or has this process been discontinued?

Note: soft copied of the above mentioned lists/reports may be provided.

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## APPENDIX F

### EXPLANATION OF THE *AUTO-POPULATE* TOOL

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## ***Appendix F: Explanation of Auto-Populate Tool***

1. One objectives of the Pilot Project was to test a scalable process that could accurately populate the subscription amounts using an auto process.
  - a. Monthly subscription rate is dependent on two factors: the employee's monthly pay scale (also known as BPS or national pay scale or grade); and the mandated subscription rate for that BPS for a specific month and year.
  - b. The employee's BPS changes through promotion/demotion, addition of one or more increments resulting in transfer, etc. Without additional evidence the BPS of an employee can only be estimated.
  - c. Subscription rates are notified with each set of rates having a specified effective date. The rate for a specified subscription in any month from 01.07.1986 onwards is known for each BPS.
  - d. It would be imprudent to assume that an employee is hired and remains in the same BPS but such an assumption would allow the history of subscriptions to be generated. The BPS history of an employee can be estimated using simple set of assumptions and based on this history the subscriptions history can be also be estimated. Such a process can be readily scaled for the whole workforce. Further, as the pay scale (i.e. changes in pay scale due to promotion, transfer, etc.) history is added for an employee the accuracy of the process increases.
2. The ADB requested to create software that could test such an approach. The initial idea was for the existing data capture Excel environment to be expanded with a functionality that incorporated such a process. However, no data capture tool existed. Hence, a completely new Excel/Visual Basic tool was created both to estimate history of BPS and subscriptions and capture other related transactions. The functioning of the tool is on the following basis:
3. The employee's starting BPS and stage is entered and the subsequent history is auto-generated using the assumptions
  - a. Each year one increment is added, i.e. the stage is increased by one;
  - b. In case the maximum stage is reached (these maximum stages have changed over time and such changes are factored into the process), the employee is automatically given the next pay scale.

- c. If information is available indicating changes in pay scale or the stage for the employee, the auto-generated data can be overridden by actual history. The updated information can be locked to bar being overwritten by auto-generate functionality. The periods after such scale/stage change would be automatically updated with revised pay scale and stage information using the principles detailed in item 1.
4. Based on the resulting history of BPS and the notified of subscription rates, the history of amounts of monthly deductions that should have occurred can be created automatically.
5. The auto generated entries can be modified manually to reflect whether deductions did not and should not have occurred (i.e. employee was on EOL pay) and the amounts auto generated would be set to 0. All other changes to monthly deductions are made through appropriate changes in BPS grades.
6. The tool has the capacity to capture additional transactions such as adjustments, temporary and permanent advances, recoveries of advances. Such transactions are entered directly by the user, i.e. there is no auto-populate functionality for these transactions.
7. A function has been added to assist in entering repeating recovery of advance entries: this is called "Auto Fill Recoveries". The user can specify the month and monthly amount; the monthly amount is automatically populated in the selected month and all remaining months up to end of the year.
8. The tool calculates the annual interest to be credited for the year at the end of the financial year. The process followed in this respect is:
  - a. Net monthly balance is determined for each of the twelve months as
 
$$\text{Net Monthly Balance} = [\text{Opening Monthly Balance}] + [\text{Subscription}] \pm [\text{Adjustment}] - [\text{Temporary/Permanent Withdrawal}] + [\text{Recovery}]$$
  - b. Net monthly balance amounts are summed for the full year to arrive at Aggregated Net Monthly Balance.
  - c. Declared interest rates for the specific financial year are notified. The list of declared interest rates is available within the tool. Annual interest is then determined by the formula

$$\text{Interest} = [\text{Aggregated of Net Monthly Balance}] \div 12 \times i$$

9. The Auto-populate tool will not permit the amount of interest be manually overridden. As changes in mandated subscriptions or other transactions occur, the interest amount is updated automatically.

10. The accumulated balance at the end of each financial year is determined as

**Carry Forward Balance** = [Carry Forward Balance from previous year] + [Subscription] ± [Adjustment]

– [Temporary/Permanent Advance] + [Recovery] + [Interest]

11. The tool allows the viewing of the detailed history, the details for a specific financial year or a summary of the history. Each worksheet can be printed through a menu option.